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USAID/JAMAICA
CARIBBEAN REGIONAL PROGRAM:

REGIONAL ENVIRONMENTAL STRATEGY

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PREFACE

The strategy team benefitted from the orientation and support received from USAID/Jamaica Mission Director Mosina Jordan and senior staff. The preparatory work done for the exercise by Lloyd Gardner was most valuable. We are particularly appreciative of the opportunity to work closely in this exercise with USAID/Jamaica staff Vernita Fort and Nicole Pitter Patterson. The importance of building Mission ownership of the regional environmental strategy cannot be over-stated, and their involvement, ideas and participation greatly served to advance that purpose. The team also appreciated the willingness and helpfulness of USAID/Jamaica staff Carlene Baugh and Deborah Hector, which allowed the team to get a handle on logistical matters and other support which improved our efficiency. The team is especially grateful for the forbearance and flexibility shown by so many Caribbean professionals and officials, and donor representatives, allowing us to meet individually and collectively, often under severe time constraints. This pressure didn't detract from the quality of the interactions, thanks to their cooperative and positive professionalism.

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The views expressed in this report are those of the strategy team and do not reflect those of USAID or any other persons or institutions. Any remaining errors in the draft report belong to the authors and not to any of the above-mentioned institutions or individuals.

Acronyms

ACS	**Association of Caribbean States**
CAIC	**Caribbean Association of Industry and Commerce**
CANARI	**Caribbean Natural Resource Institute**
CARICOM	**Caribbean Common Market**
CARICOMP	**Caribbean Coastal Marine Productivity**
CCA	**Caribbean Conservation Association**
CCU	**Coastal Conservation Unit**
CDB	**Caribbean Development Bank**
CDERA	**Caribbean Disaster Response Agency**
CEHI	**Caribbean Environmental Health Institute**
CERN	**Caribbean Environmental Reporters Network**
CFRAMP	**Caricom Fisheries Resource and Assessment Management Program**
CHA/CAST	**Caribbean Hotel Association/Caribbean Action for Sustainable Tourism**
CIDA	**Canadian International Development Agency**
CPACC	**Caribbean Program for Adaptation to Climate Change**
CRES	**Caribbean Regional Environmental Strategy**
CRP	**Caribbean Regional Program**
CTO	**Caribbean Tourist Organization**
CWIP	**Coastal Water Quality Improvement Project**
DEMO	**Development of Environmental Management Organizations**
DFID	**Department for International Development**
EAST	**Environmental Audits for Sustainable Tourism**
ECCB	**Eastern Caribbean Central Bank**
EFJ	**Environmental Foundation of Jamaica**
ENACT	**Environmental Action Program**
ENCORE	**Environment and Coastal Resources**
EPA	**Environmental Protection Agency**
EU	**European Union**
FAO	**Food and Agricultural Organization (U.N.)**
GCT	**General consumption tax**
GDP	**Gross Domestic Product**
GEF	**Global Environmental Facility**
GOJ	**Government of Jamaica**
GTZ	**Gesellschaft für Technische Zusammenarbeit (German aid agency)**
IADB	**Inter-American Development Bank**
IBRD	**International Bank for Reconstruction and Development**
IMA	**Institute of Marine Affairs**
IR	**Intermediate Result**
IRG	**International Resources Group, Ltd.**
LAC	**Latin America and the Caribbean**
NEAP	**National Environmental Action Plan**
NGO	**Non-Government Organization**
NOAA	**National Oceanographic and Atmospheric Agency**

NPV	**Net present value**
NRCA	**Natural Resources Conservation Authority**
NRM	**Natural resources management**
ODA	**Overseas Development Administration**
OECS-NRMU	**Organization of Eastern Caribbean States, Natural Resources Mngmnt Unit**
PAHO	**Pan-American Health Organization**
R4	**Results, Review, and Resource Request**
SIDS	**Small Island Developing States**
SO	**Strategic Objective**
SOAG	**Strategic Objective Agreement**
SOW	**Statement of Work**
TA	**Technical assistance**
TC	**Technical consultation**
UNCED	**United Nations Conference on Environment and Development**
UNDP	**United Nations Development Program**
UNEP	**United Nations Environment Program**
USAID	**United States Agency for International Development**
UWI	**University of the West Indies**
UWICED	**University of West Indies Center for Environment and Development**
WB	**The World Bank**
WWF	**World Wildlife Foundation**

EXECUTIVE SUMMARY

BACKGROUND

In response to the 1997 Caribbean-U.S. Summit in Bridgetown, Barbados, USAID/Jamaica is establishing a Caribbean Regional Program to address issues relating to trade, poverty, administration of justice, and environment. A five-year strategy for providing USAID regional environmental assistance is described below. It reflects extensive consultations and guidance obtained from over 110 leading professionals and organizations within the region. Individual and group meetings, and extensive document reviews, were conducted in the Caribbean between August 24 and September 18, 1998. Meetings with donors and other Washington, D.C. based organizations preceded work in the field.

PROBLEM

The ecosystems which sustain Caribbean economies, whether based on agriculture, fisheries and particularly tourism, are under severe and increasing stress. The causes are direct (e.g. over-fishing, denuded hillsides), indirect (e.g., raw sewage or pesticide residue runoff transported to streams, beaches and coral reefs), or even global (e.g., warming of sea temperatures, sea level rise). Ultimately, the results are the same: destruction of production sustaining habitats, loss of biodiversity, and deteriorating economies and individual livelihoods.

Caribbean nations recognize these threats to their individual environmental and economic well-being. They also recognize that their interconnectedness, whether by virtue of ocean currents or collective position in world markets, requires concerted regional and cross-sectoral actions. In this regard, they have forwarded and/or been parties to various international conventions, protocols and regionally pertinent agreements, such as The Cartagena Convention, Marpol Convention, Global Climate Change Convention, International Coral Reef Initiative, Bolivia Sustainable Development Declaration, and the Small Islands Developing States Program of Action (SIDS/POA). This latter framework and action agenda addresses priorities which need strengthening for environmentally sound ecosystem management to occur, and USAID's regional environmental strategy brings additional support to the SIDS Program.

Still, in many instances, it appears that pressures for development, expressed to politicians in terms of jobs and incomes, are not effectively countered with equivalent arguments in favor of sound environmental practices. It is difficult for governments to see how dwindling budgets can justifiably be used for environment. Donor funding is generally declining. The economic valuation of environmental assets at risk, and the conversion of that information into terms which allow true comparisons of the tradeoffs to be made, is still largely missing in policy formulation and budgetary allocation decisions.

LEADING PRINCIPLES

The leading principles guiding the definition of the strategy are that it:

-- Address those environmental priorities and support the action agenda defined by regional leaders and key institutions;

-- Build on USAID's experience and capabilities to help relieve constraints identified by Caribbean partners;

-- Apply USAID's limited resources to leverage greater investment for sustainable management of ecosystems.

An underlying concern is ensuring sustainable economies and livelihoods for people of the Caribbean.

STRATEGIC APPROACH

Focus on Sustainable Tourism: **The strongest arguments for environmental protection can be articulated from the tourism sector more so than from other sectors. Tourism is the most important economic sector in the region, is dependent on the quality of the environment for its success, and continues to be a major source of investment. As the urgency increases to protect the environmental assets on which tourism depends (coral reefs, water quality, natural areas), it is incumbent upon tourism interests to provide leadership and finance for environmental management initiatives. Sustainable tourism is an emerging development thrust among Caribbean and donor organizations, as it implies benefits to the environment, economy and communities. Delivering on that promise is not easy. USAID's strategy draws upon areas where the Agency is strong: private sector strengthening, grassroots capacity building, protected areas and natural resource management, and environmental aspects of tourism development and policy.**

Encourage Economic Sustainability: **A rationale for infusing USAID's regional environmental strategy with a strong economic sustainability orientation was endorsed by all individuals and institutions interviewed by the Team throughout the region (particularly the WB, CDB, IDB, ECLAC, and UNDP). A brief elaboration of this orientation largely intended for the non-economist readers is provided in** Annex C**.**

Leverage Funds: **Leveraging additional funds for sustainable tourism is an essential part of the strategy. It targets private enterprises with strong vested interests in safeguarding tourism areas' natural assets (i.e., tourism enterprises and related businesses). It also looks at combining those investments with other community stakeholder initiatives and resources to more sustainable address shared environmental threats. USAID will fund activities, such as technical assistance, training and special studies, leading up to, but not including implementation of major environmental infrastructure (e.g. tertiary sewage treatment facilities, solid waste management infrastructure, integrated watershed activities, and the like). Therefore a criterion in selecting activities is their potential for engaging private investors or other donors.**

Involve Communities: **The strategy seeks to get community action on underlying environmental threats to both the tourism mainstay of local economies, and to citizens' livelihoods and well-being. NGOs and CBOs could become key partners in driving sustainable tourism development efforts at local levels. The strategy will assist to further participatory practices that lead to increased community stakeholder "ownership" and self-reliance. NGOs may help facilitate dialogue leading to broad stakeholder constituencies of businessmen, traditional resource users, tourism representatives, and others concerned for, or affected by, area environmental improvements.**

Improve Policies **The strategy seeks to build on ground-truths and insights documented at local levels in order to identify, inform and promote policies that encourage private and community adoption of environmental improvements. These could include tax incentives for use of clean technologies and regulations permitting local collection and retention of user fees. This will be enriched through better economic valuation and better articulation of economic arguments in terms politician and local stakeholder can appreciate. (Environmental stewardship of tourism assets can be expressed in terms of jobs and foreign exchange, just as it can in terms of financial returns from using more efficient, environmentally friendly practices.)**

PROGRAM ELEMENTS

Within the framework described above, the USAID strategy proposes to work at relieving major constraints through three interrelated courses of action.

(i) Strengthen Private/Public/CBO Partnerships

The strategy seeks to achieve tangible on-the-ground environmental improvements in selected areas of environmental and economic significance while building stakeholder constituencies to "push from below" for improved practices and policies. Tourism is an entry point through which to engage private investment and entrepreneurial initiative to support sustainable environmental practices and conditions, both within **the hotel gate and within the surrounding community. Local tourism associations, tourism service groups, community based organizations, resource user groups, NGOs, and others can and, in identified cases, do work together in favor of healthy ecosystems and healthy, prosperous communities. The strategy identifies concrete approaches and illustrative ways that experiences within the region will be capitalized on and used to promote local and regional adoption.**

(ii) Mobilize Financial Resources

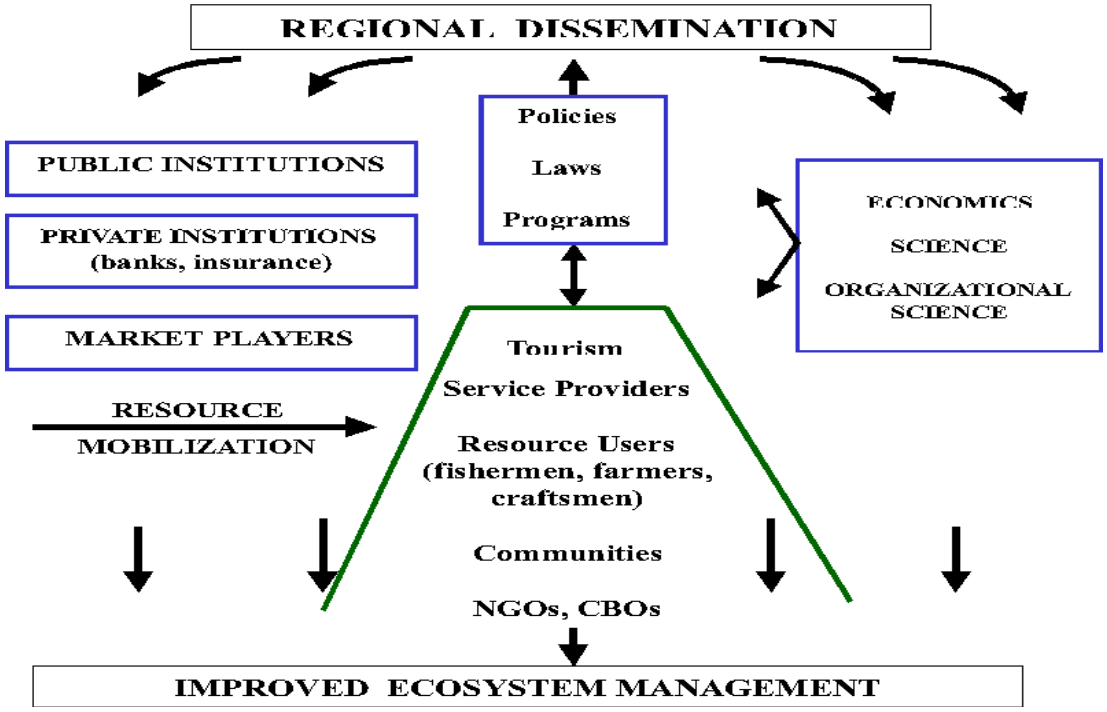
The strategy seeks to bring the private sector into full partnership with Caribbean regional, national and local institutions, with USAID, and with other donors, to address environmental issues of immediate economic concern throughout the region. The tourism industry stands out above

agriculture, fisheries and forestry as the region's premier employer, income generator and as a major source of environmentally related investment. Tourism organizations and service groups, such as the Caribbean Hotel Association' s CAST program, are already engaged in this agenda.. The strategy will mobilize private tourism investment, including community stakeholder resources, in support of the environment. Concrete examples of how this is already being done will be identified, expanded upon, and documented for regional dissemination.

(iii) Enhance the Policy Environment

In cooperation with regional development partners, including donors and universities, the strategy fosters the application of scientific research and economic instruments to inform stakeholder and to enhance the policy climate so that private and community actions can flourish. The strategy will strengthen policy-making, related laws, and institutional capacity needed to encourage private and community resource mobilization for environmental management of "at risk" tourism areas.

These interrelationships and flow of strategy components are diagrammed below. Tourism and other local stakeholder promote and benefit from policies, laws and programs which help them to better manage economically crucial ecosystems. This process is informed by sound economics, science and organizational strategy. Best practices and examples of the "art of the possible" are disseminated across the region, influencing public, private and community actions favoring improve3 ecosystem management.



Carefully selected sites can illustrate best practices of stakeholder interaction, resource mobilization and constituency building to achieve environmental improvements. Different sites may illustrate one or more positive examples. These processes will be documented and benefit from additional economic, scientific and organizational analyses and facilitation. This can be done through local and regional expertise and small "facilitating" grants to lead local groups, e.g. tourism associations, CBOs, NGOs. Regional dissemination of best practices and creative organization and resource mobilization can be done through workshops, networks and site visits.

STRATEGIC OBJECTIVE

By documenting, complementing and disseminating the region's rich reserve of initiatives to harness and encourage private tourism and related stakeholder investments, and by having these complement those of government and other donors, the USAID regional strategy expects to:

REDUCE DEGRADATION OF FRAGILE ECOSYSTEMS
OF SIGNIFICANT BIODIVERSITY AND ECONOMIC VALUE

This will entail accomplishment of several intermediate results, including:

- **achieving integrated approaches linking sustainable tourism to other sectors and ensuring relevant stakeholder participation;**

- **channeling private tourism and local stakeholder investments into environmentally sound technologies, improved practices and management systems, and;**

- **enacting policies, laws and regulations which stimulate greater private adoption of environmental technologies, and greater local resource generation for common environmental priorities.**

STRATEGY PARTNERS AND CUSTOMERS

The mix of private sector, community stakeholder, policy-making, analytical, and dissemination activities involves a wide range of players. Suggested principal regional partners could include the Caribbean Hotel Association, Caribbean Tourism Organization, University of the West Indies, ECLAC SIDS/POA Secretariat, CARICOM Sustainable Development Unit, Caribbean Conservation Association, OECS/Natural Resources Management Unit, UNEP/RCU, CEDNET and SIDSNET. Others, such as the Caribbean Environmental Health Institute, CARICOMP, and OAS climate change (CPACC) and public participation in environment (ISP) programs are also engaged in activities of high relevance to the strategy. Principal customers would be particular stakeholder groups in selected sites, national agencies and policy-makers involved in specific activities, and ultimately the broader regional community of private and public decision-makers, stakeholder groups, and practitioners concerned with ecosystem protection and management. This includes coordinated involvement of organizations and individuals in USAID presence countries (Jamaica, Dominican Republic, Haiti, and Guyana). The strategy will require coordination with other institutions which are advancing regional sustainable tourism agendas, such as the Association of Caribbean States and World Bank.

RELATIONSHIP TO AGENCY AND REGIONAL PROGRAM GOALS

The strategy directly contributes to the Agency-wide goal of managing the environment for long-term sustainability**. It also supports achievement of Agency goals related to promotion of broad-based economic growth, and advances the goal of building democratic participation. Within the framework of USAID/Jamaica's Regional Program, the strategy is the principal initiative to achieve Strategic Objective 2. "to increase protection of key natural resources in environmentally significant ways. "While justifiably focusing on tourism as an entry point for mobilizing environmentally sound private investments, the strategy notes other potential opportunities, to do this, such as agricultural diversification.**

Environmental issues underlie and are inextricably linked with the other Caribbean Regional Program components. Therefore, the strategy also explicitly identifies critical environmental issues/opportunities that can best be addressed in the design of the Trade, Law and Justice, and Poverty Alleviation elements of the regional program.

RESOURCE REQUIREMENTS

The strategy suggests and provides illustrative examples of technical assistance, training, institution-building and special activities which can support implementation of core components. However, detailed design with key regional partners and stakeholder is needed to define specific approaches and related costs. Given USAID's budget expectations, the Strategy does present notional low budget ($8 million), and medium budget ($12 million), scenarios. Among other things, the latter includes a modest initiative in the Guyana Shield subregion. In both cases, resource limitations dictate a high degree of focus within the regional environmental program.

1. INTRODUCTION

1.1 Background

The Caribbean is blessed with rich, diverse ecosystems comprised of abundant renewable and nonrenewable natural resources. Although this natural endowment is in many cases the source of the region's economic growth, the natural resource base of the region has become increasingly degraded over the past two decades. Some of the serious environmental problems include deforestation, loss of biodiversity, urban and rural pollution, and the degradation of land, soils, coastal zones, water resources, and urban environments. Threats from natural disasters and from projected rising sea levels further complicate this picture. Economic and social conditions also brought policy changes which significantly influence the environment. Faced with structural adjustment programs, governments have cut back on the already limited interventions in social and environmental spending and related planning efforts. The pressure to raise foreign exchange has resulted in shortcuts such as omitting environmental criteria in sectoral legislation concerning forestry, fisheries, industry and tourism. As income earning opportunities have shrunken in the rural areas the rural-urban drift has exacerbated pressures on inadequate urban infrastructure evident by the overburdened waste treatment or disposal facilities.

These economic, social, and political concerns are inextricably linked to each other and to sustainable use of the region's ecosystems and natural resources. Within this context, sound management of these ecosystems and natural resources becomes all the more significant.

1.2 U.S. Foreign Policy

Some of the major U.S. Government policy objectives as concerns the Caribbean region include: biodiversity and ecosystem conservation as provided by the International Coral Reef Initiative; the reduction in land-based sources of marine pollution; the advancement of environmentally sound and sustainable hemispheric economic integration and trade in accordance with the guidelines of the Free Trade Area of the Americas (FTAA) initiative; economic diversification which expands beyond the inefficiently produced commodities such as bananas in this region; poverty reduction; social and political stability; and reduction in drug trafficking.

The United States government recognizes the global value of the region's natural resource base and the development constraints facing the Caribbean's small economies and fragile natural environment. The challenges facing the Caribbean region were acknowledged most recently in the 1997 Bridgetown Summit Declaration and Action Plan:

" We note that the Continental Caribbean...contains, in the Guyana Shield, one of the last major sources of fresh water on the planet. The Caribbean possesses many of the world's oldest known genetic species of marine and terrestrial biodiversity of significant scientific and commercial value...We also recognize that the major economic activities of the Caribbean -- tourism, agriculture, mining, petroleum, bauxite, gold and other minerals), fishing and forestry— are extremely dependent on a sound environment. The sustainability of these economic activities and their continued contribution to the development of the Caribbean is inextricably linked to the preservation of the environment."

1.3 Rationale and Objectives

The rationale for a regional approach to environmental issues in the Caribbean is twofold: *a)* problems and issues arise where actions undertaken in one country demonstrably affect the environmental status of other countries within the region, and; *b)* some problems are approachable in a much more cost effective manner through a regional initiative. A regional issue is, then, not just one that is common to most countries, but is one that is most effectively and/or efficiently resolved through cooperation among countries. The proposed strategy and results set out for the Caribbean Regional Environmental Program are consistent with this definition.

The strategy exercise includes: *a)* a review of key environmental issues of regional or subregional importance and clarification of the priorities expressed by key Caribbean institutions; *b)* specific recommendations on the direction which USAID/Jamaica's Regional Caribbean Environmental Program shall take; and *c)* suggests prioritized interventions for USAID/Jamaica/CRP and other U.S. Government organizations which will contribute to the achievement of U.S. foreign policy objectives, especially those that address the environment and sustainable development.

1.4 Approach and Methodology

1.4.1 Thematic Areas

Several major regional institutions in the Caribbean have adopted and are promoting Integrated Natural Resource Management (and related Integrated Coastal Zone Management, Island Systems Management) as unifying frameworks for carrying out environmental and natural resource work in the region. The integrated approach is deemed necessary to ensure optimal decision-making concerning the many and complex facets of the natural and human environment. Several thematic areas were used as a preliminary framework within which the team began identifying strategic options and initiatives which respond to subregional and regional development priorities, advance key USG foreign policy objectives for the region and reflect USAID's comparative advantage

vis-a-vis other international donors and organizations, within the parameters of USAID likely funding levels. These thematic areas are:

- **(i) Biodiversity Conservation/Ecosystem Management (coastal/marine and terrestrial)**
- **(ii) Sustainable Tourism**
- **(iii) Economic & Social Development and Sustainable Trade**
- **(iv) Integrated Water Resources Management**

1.4.2 Strategy Issues

In developing the strategy, the team worked within the parameters, and considered issues, such as those spelled out below:

The Regional Strategy adopts an initial 5-year timeframe and focused approach. This allows relatively modest dollar amounts of USAID assistance currently available to measurably and catalytically contribute to the achievement of impacts in priority areas identified by, and clearly on the action agenda of, key regional players, including private investors and other donors. Opportunities to collaborate, co-finance or otherwise leverage and help target financing available from other donors, international agencies, private investors and local stakeholders are pursued in order to both increase the magnitude of results and to engender financial sustainability. The strategy also takes into consideration existing bilateral and regional USAID programs, other U.S. Government activities and other donor activities to achieve complementarity where appropriate and avoid unnecessary duplication.

An underlying concern of the Strategy is the well-being of the human population of the region, with a particular focus on the more vulnerable parts of the society. Therefore, suggested approaches to ecosystem management directly rely upon, and reinforce, processes that facilitate ground-level stakeholders involvement in defining problems and solutions. Similarly, the Strategy will support identification of policy issues that reflect ground-level stakeholder needs, help to inform policy-makers, and build constituencies for continued policy improvement.

The geographic focus of the Strategy is the CARICOM and Associate CARICOM countries, plus Haiti and the Dominican Republic. The nature of proposed interventions will entail selected involvement in selected sites in a few countries, coupled with dissemination activities favoring them all. Potential linkages to USAID environmental programs in Mexico and Central American countries are of interest, particularly in the context of the Association of Caribbean States.

In brief, the proposed strategy addresses the following main considerations:

- **(i) Supports achievement of USAID/ Regional Program strategic objectives**

- **(ii) Impacts on significant numbers of people/livelihoods**

(iii) Builds upon an underlying economic engine of growth

(iv) Works with strong and committed partners (public and private)

(v) Demonstrably impacts on problems within the strategy period and funding level

(vi) Complements and/or leverages other private, public or donor resources

1.4.3 Site Visits

The strategy team met with over 110 representatives of various organizations, including representatives from technical and policy institutions which deal with environmental matters in the region, to discuss the issues outlined above and others crucial to development of an appropriate USAID strategy. These visits provided an opportunity to *a)* directly inquire and gather information about environmental conditions in the region, *b)* observe some of the interventions already underway, and *c)* understand regional actors' priorities and commitment to redressing environmental problems. The sample of countries where site visits took place included Jamaica, Dominican Republic, Haiti, Puerto Rico, St. Lucia, Barbados, Trinidad and Guyana. Documentation regarding activities in these and other countries in the region was collected and reviewed.

1.4.4 Customers/Partners

USAID/Jamaica established an interagency Strategy Advisory Committee to provide feedback on the strategy workplan, review draft and final strategy reports and provide technical and policy guidance on the recommended interventions to be pursued by USAID. The Advisory Committee is chaired by a designated staff member of USAID and its membership includes representatives of the Caribbean Development Bank; the CARICOM Sustainable Development Unit; the Caribbean Environment Program of UNEP's Regional Coordinating Unit; the Natural Resource Management Unit of the Organization of Eastern Caribbean States (OECS-NRMU); and the Caribbean Conservation Association (CCA). Other important organizations were incorporated into the initial orientation Advisory Committee meeting held for the team September 3, 1998 in Barbados, including the Institute of Marine Affairs (IMA), the Caribbean Environmental Health Institute (CEHI), UWI Center for Marine Sciences and Caribbean Regional (CARICOMP), and the OAS/Caribbean Planning for Climate Change Project (CPACC).

In addition, a one-day Technical Consultation with representatives from a wide range of largely different national and regional institutions took place in Antigua on September 14, 1998. That group reviewed proposed strategy recommendations arrived at by the team through the site visits to date. This group provided insights into important issues needed for further consensus-building regarding opportunities for USAID interventions over the next five years. Attendees at that meeting included Caribbean Disaster and Emergency Readiness Agency (CDERA), Economic Commission for Latin America and the

Caribbean--and SIDS/POA Secretariat--ECLAC, Caribbean Association of Insurance Agencies, The Bellairs Research Institute, PanAmerican Health Organization, The Consortium of Caribbean Universities for Natural Resources Management (Puerto Rico), Center for Environment and Development (Puerto Rico NGO), UWI Department of Economics Studies, St. Augustine Campus, Caribbean Fisheries Resource Assessment and Management Project (CFRAMP), as well as the OECS/NRMU and CARICOM Sustainable Development Unit. Because scheduling problems prevented their attendance in Antigua, follow-up meetings were also held in Kingston with representatives of CHA/CAST, UNEP/RCU, IADB, WB and UWI Center for Sustainable Development.

A roundtable meeting with pertinent partners is scheduled for January 11, 1999. That meeting will provide written and oral comments on the draft, and give direction needed to produce a final strategy document. From that point on, it will be important to work intensively with those partner and customer institutions most involved in priority areas identified for USAID assistance, and with a sampling of direct stakeholders.

1.5 Organization of the Report

Given the above background and discussion of the approach used in preparing the Strategy, the remainder of this report presents a discussion of documentation, analyses and syntheses of strategy findings (Section 2. OVERVIEW), a presentation of the Strategy and recommended approaches for implementing it (Section 3. PROPOSED STRATEGIC PLAN), a suggested objective framework and how it links to Agency goals (Section 4: STRATEGIC OBJECTIVES AND RESULTS) and a brief discussion of what can be done under two funding scenarios (Section 5. RESOURCE REQUIREMENTS). Considerable information is found in Annexes C, D and E and these are keyed to corresponding sections of the report.

2. OVERVIEW

2.1 Introduction

The problems effecting environment and related natural resource assets in the Caribbean are quite well known. This section notes these and relevant trends, and implications for economic growth and well-being. The Team also notes the array of existing frameworks and agendas for addressing regional environmental problems, the difficulties encountered in implementing these and what is being done to address these constraints.

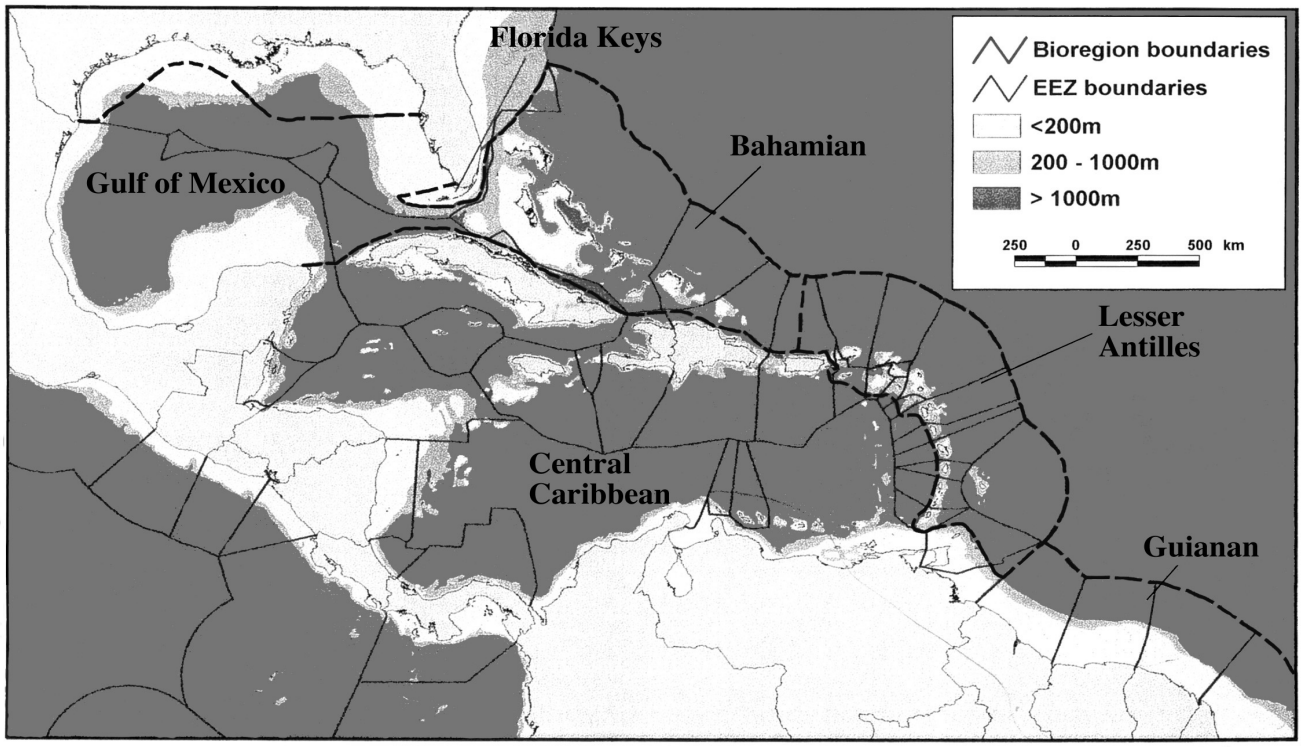
2.2 Regional Environmental Issues

2.2.1 Environmental Degradation

Incidences and causes of environmental degradation in the Caribbean region are widely documented. The attached list of references cites many relevant studies. The 1994 Barbados Small Island Developing States (SIDS) Conference notes that the scale of local and global environmental deterioration disproportionately affects them and their prospects of economic advancement in an increasingly competitive global economy. The 1997 Ministerial Meeting for the SIDS Plan of Action (SIDS/POA) reaffirmed their concern for dominant issues, including: inadequate management of land resources and land use; loss of biodiversity; coastal degradation; depletion of freshwater resources; natural and environmental disaster; climate change; energy resources; and waste management.

Still, there are few comprehensive and compiled environmental issue-oriented data, analyses and recommendations embracing the Caribbean region as a whole. This is particularly the case for analyses linking the environment and economic growth. Selective country-level studies and, in some cases, sub-regional syntheses are more common. The literature referenced in support of analyses below reflects some of these and is not intended to be exhaustive.

The Nature Conservancy (TNC) is completing a major strategic review which highlights the dynamics and current-based connectivity of the Caribbean. Principal development threats to marine systems identified are a) degradation of coastal water quality, b) direct loss of habitat, and c) over-exploitation of marine resources (Draft, The Central Caribbean Marine Ecoregion: A Strategy for the Conservation of Coastal Marine Resources, TNC Latin American and Caribbean Region, December, 1998). The connectivity concept implies the critical need for regional cooperation to address these issues. It links local ecological issues to off-shore marine currents and events occurring in often distant locations in the region. A further "connection" noted is between coastal ecosystem health and economic activities occurring in proximate upland and shore areas. The map below illustrates a clear nexus between the ecological base and economic development, which transcends traditional national boundaries. It also reinforces the current drive of Caribbean leaders to take a more holistic approach to the sustainable development of the Caribbean Sea.



Caribbean Basin Ecological & Economic Subregions (TNC 1998)

The region's coral reefs, mangroves, estuaries, seagrass beds and forests provide a range of environmental services which are vital to developing and sustaining the economies of the Caribbean nations. Among these are: maintaining commercial fisheries stocks; serving as a foundation for tourism; reducing land-based pollution of coastal waters; protecting freshwater supplies; and reducing the loss of lives, economic assets, and human suffering from climate-related natural disasters.

Losses to hurricanes and other extreme weather events, including potential sea level rises and temperature increases due to climate change, are significant and conceivably devastating. Better protection of ecological systems can lessen damaging impacts on economic infrastructure and can also hasten recovery from natural hazards. For instance, unhealthy and dying coral reefs are more likely to be destroyed by storms, subjecting unprotected shoreline investments to much greater damage. In this case, regulations which both protect reefs and reduce the vulnerability of shoreline development (e.g. setbacks, building codes, environmental impact assessments, protected areas) can help minimize losses. Upland protection of watersheds can also reduce sediment damage to reefs. Many of the vulnerability issues and mitigation approaches to natural disasters apply to climate change. The strategy will consider opportunities for prevention/mitigation that encompass common loss prevention elements of these threats.

The World Bank "Initiatives for Regional Action on Caribbean Environmental Issues, 1994" (World Bank Report No. 13045 LAC) notes that the economies are based predominantly on coastal tourism, export agriculture, or mineral/hydrocarbon exploitation. Concentrated human settlement and economic activities in the coastal areas of small island states heavily impact coastal and near coastal ecosystems. The upland agriculture, deforestation, and in some cases, mining have negative on-site impacts (soil depletion, erosion, habitat loss), negative effects on hydrological regimes and water quality for downstream uses, and finally contribute to the decline of coastal and marine ecosystems (sediments, nutrients, pesticides). The World Bank document notes that only the mainland countries of Belize, Guyana and Suriname have extensive arable land and forest resources, low population densities, and less intensive pressures on their forest, watershed, agricultural land, and coastal resources. Even in those countries, most of the people are concentrated in coastal areas. Those few countries with significant mineral resources (Jamaica, Guyana, Suriname--bauxite; Trinidad and Tobago--petroleum) face additional degradation and pollution problems.

Marine and Coastal Problems

Most of the Caribbean countries have the majority of their urban centers and economic activities located in coastal areas. While natural causes, such as extreme weather events, negatively effect marine and coastal environments, there is abundant evidence that man-made problems are endangering and destroying these valuable ecosystems throughout the region. The resulting degradation of coral reefs, seagrass beds, mangroves, and estuaries, undermines the sustainability of important sources of livelihoods for Caribbean people--

especially fisheries, and very importantly, tourism. That degradation also increases the susceptibility of shoreline infrastructure investments in ports, businesses, housing, and recreation/tourism assets, to storms and possibly to potential effects of global warming.

The World Resources Institute assessment of coral reefs ("at risk") indicates that two thirds of Caribbean basin reefs are at risk, due largely to sedimentation from upland deforestation, bad agricultural practices, coastal development, pollution and over-fishing. All of the reefs of the Lesser Antilles are classified as at risk. This illustrates that, for small island states in particular, the health of coastal and near shore marine ecosystems is dependent upon upland development and practices, as well as on direct impacts from coastal communities and enterprises. It also follows that a comprehensive understanding of specific polluting activities and contaminants is needed to arrive at an appropriate remediation and prevention strategy. Consequently, countries are adopting integrated approaches to environmental management, such as integrated coastal zone management, ridge-to-reef problem solving frameworks, and, in the OECS subregion, an integrated island systems approach.

The UNEP document "Regional Overview of Land-Based Sources of Pollution in the Wider Caribbean Basin" (Caribbean Environmental Programme Technical Report No. 33, 1994) summarizes available information on the type of pollutants from land-based sources. Those posing the greatest threat to coastal and marine ecosystems and human health include sewage, oil hydrocarbons, sediments, nutrients, pesticides, litter and marine debris, and toxic wastes.

The principal causes of the specific problems and implications for development noted in the UNEP document on land-based sources of marine pollution are summarized in Annex D: Technical Notes 1.

Terrestrial Problems

Another study addressing environmental issues in six OECS countries is the "Synthesis of the Eastern Caribbean Country Environmental Profiles" (1991, CCA/IRF/USAID). The areas addressed include forests and forestry, wildlife and biodiversity, watershed management, coastal and marine environments, agriculture, tourism, pollution, parks and protected areas and institutional frameworks for environmental management.

This study documents the negative impacts of over-exploitation of forests and pressures leading to agricultural use of forest lands, and argues for the full valuation of the multiple uses of forests in order to arrive at more rational and sustainable uses. They point to the decline of biodiversity sustaining habitat and water production capacity of watersheds, and to soil erosion and sedimentation problems, resulting from conversion of forest areas to other uses. The discussion includes recommended policies and practices in support of agro-forestry, ecotourism, and other more sustainable livelihood options for forest communities.

It is also noteworthy that the Caribbean Group for Cooperation in Economic Development (CGCED) includes in its "Caribbean Economic Review, 1998" a section on environment,

recommending that specific environmental problems be addressed, in order to protect existing and expanding areas of economic growth. For instance, in Grenada, it is recommended that coastal zone degradation needs to be better addressed to avoid declines in tourism. Similarly, attention to sewage treatment, deforestation, waste management and other needs are called for in specific countries as part of the prescriptions to sustain economic growth.

2.2.2 Environmental Policies

Since the United Nations Conference on Environment and Development (UNCED) in 1992, the Caribbean has undertaken significant work in defining environmental policies, implementing related programs, and passing relevant environmental legislation. Newly established environmental institutions, ministries and commissions are developing and implementing environmental policy frameworks, plans and projects. In may instances, environmental institutions to coordinate environmental management and enforce laws have been established. Environmental legislation is being improved, which includes the formalization of environmental standards and norms. Environmental impact assessments are increasingly being applied as tools to incorporate environmental considerations into development activities. Slowly, economic instruments are been applied to incorporate environmental costs and benefits into national, program and project accounting. Environmental public awareness programs are informing broad sectors of society about environmental management and pollution prevention, and environmental education programs have been integrated into some school systems.

Policies and laws for orderly, environmentally sensitive development are found across the Caribbean. Requirements for Environmental Impact Assessments, coastal land use planning and development, water treatment, and building codes and standards are generally in place. However, these are not uniform nor uniformly enforced and fragmented administrative and legal loopholes or conflicts in areas of authority, sometimes render them ineffectual. Caribbean countries present a variety of management frameworks, ranging from situations where legislation is ad hoc in response to specific problems, to situations where, for instance, there is stand-alone coastal zone legislation, to others in which there is umbrella legislation regulating coastal resources as a component within a comprehensive environmental strategy. Still, the team learned that much more is needed, inter alia: more effective upland watershed land use regulations, incentives to promote private and community investment in environmentally sound practices and technologies (e.g. tax breaks, collection and retention of users fees), water and energy pricing policies which encourage conservation , including use of renewable energy, more open and transparent processes for review and approval of environmentally significant projects. Such needs are expressed throughout the literature and are the subject of active discussion in the region. In many instances, it appears that pressures for development, expressed to politicians in terms of jobs and incomes, are not effectively countered with equivalent arguments in favor of sound environmental practices. The economic valuation of environmental assets at risk, and the conversion of that information into terms which allow true comparisons of the tradeoffs to be made, is still largely missing in policy formulation.

2.3 Regional Socio-Economic Conditions

2.3.1 Economic Growth Sources and Perspectives

The intent of USAID's participation in the regional environmental agenda is to help improve economic well-being through approaches which better protect critical ecosystems. As a preface, it is important to outline some fundamental features of the environment and growth in the Caribbean. First, natural phenomena within or caused by actions outside the region significantly impact ecosystem health. Hurricanes and torrential rains contribute to the destruction of reefs and forests. Similarly, the threat of rising sea levels and temperatures caused by global warming, while having far-reaching implications for the region, is outside its control. Secondly, the small island economies of the Caribbean operate within an increasingly competitive global marketplace driven by forces over which they have little control. The vulnerability of the small and weakly diversified economies is brought home when global trade liberalization trends challenge protected production and marketing systems (e.g. bananas). This increases pressure for immediate income and employment solutions, which can often have negative long-term environmental implications. A third point is that many of the small islands are near, or over their population carrying capacity, in terms of existing infrastructure, services and current resource use practices.

Thus, from a strategic standpoint, it is necessary to identify the areas of long-term comparative advantage and potential for the Caribbean countries, and to give priority to environmental safeguards that underwrite their success and resiliency. Keeping man-made degradation of the environment to a minimum is not easy in the face of population stress on physical infrastructure and natural systems, but much can still be done in this regard. This includes greater application of economic policy instruments and market incentives that stimulate environmentally appropriate resource use, practices, and investments by firms and communities. Similarly, preparedness and prevention (e.g. beach setbacks, building codes, land use restrictions, watershed protection) can ameliorate physical damage and economic loss from natural weather events, and speed up recovery.

As is reflected in CGCED documents (Trade Policies in the Caribbean Countries, 1998, and Caribbean Economic Review, 1998), 1995-1997 GDP growth figures, excluding the exceptionally high 8% rate in the Dominican Republic, reveals a regional growth rate of 1.8%. This takes into account the fact that most economies rebounded in 1996-97 due basically to improved performance of exports in general, and tourism and free trade zones in particular. The first cited review also lays out the structure of production as a percentage of GDP for the 15 CGCED countries. A selection of this data for 1995 is presented below, with the addition of a breakout of tourism receipt contributions within the services account (1997). (Given the prominence of tourism receipts within the region's economies, some discussion has been given to breaking tourism out as a discrete category within national accounts.)

Structure of Production as a Percentage of GDP for 15 CGCED Countries (1995 &1997)

Country	Agriculture	Mining	Manufacturing	Services/Tourism
Antigua & Barbuda	4	17	3	76 / 74
Bahamas	3	2	2	93 / 89
Barbados	5	8	8	79 / 40
Dominica	26	11	7	56 / 15
Dominican Republic	15	6	15	64 / 17
Haiti	46	11	6	37 / 3.6
Jamaica	9	20	18	53 / 25
St. Lucia	11	14	7	68 / 50
St.Vincent	18	19	5	59 / 23
Trinidad & Tobago	3	34	9	54 / 1.2
For the 15 Countries	16	15	9	60 / 20

Economic growth opportunities seem to be coming from export diversification by moving into services, including free trade zones, informatics, and financial and business services. Tourism revenue has been a stable component of total exports, contributing about one third of their value. The contribution of agriculture (including fisheries) to regional GDPs has been declining, as has the number of people employed in agriculture. The traditional agricultural export market opportunities for sugar and bananas are threatened by enforcement of World Trade Organization rules. Potentially, new commodities and markets can replace some of this loss, but entering and effectively competing in new markets will require a considerable transition period.

In sum, future growth prospects largely reflect those identified in the World Bank document "Caribbean Region Current Economic Situation, Regional Issues and Capital Flows, 1992". The conclusions are that trade liberalization, integration of world capital markets, and slowing world growth exacerbate the competitive pressures facing Caribbean economies. The challenge is to exploit their respective comparative advantages and provide macroeconomic frameworks that facilitate private involvement, increase resource use

efficiency, and open up trade regimes. Caribbean countries are called to place greater emphasis on tourism and service related industries.

Economic activities and the environment are highly related in the Caribbean. As noted earlier, the economic mainstays of many Caribbean economies, tourism and agriculture, impact on the quality of the environment, while depending on a high degree of environmental integrity for their success. Tourism infrastructure, water demands and waste disposal can further degrade the natural beauty and ecosystem attributes that attract tourists in the first place. Agriculture, in particular monoculture plantation agriculture and hillside agriculture in forest lands, pollute water and are major contributors to deforestation and sedimentation.

Despite these relationships, there are no comprehensive and quantitative analyses of these effects, due to the complex relationship between the mix of economic and human activities and complexities of effected ecosystems themselves. The World Bank document "Caribbean Region Current Economic Situation, Regional Issues and Capital Flows, 1992" concludes that while there is no operational methodology to link environmental degradation to economic growth and development, the impact of environmental deterioration can be traced to harmful effects on physical capital (infrastructure), human health, agricultural yield, fisheries and forestry output. That report goes on to examine three categories of environmental destruction: deforestation and inappropriate use of land resources, coastal zone degradation and depletion of fisheries, and waste management. It uses selected indicators and some case study data to highlight, albeit in a limited way, the magnitude of the problem in each of the areas. However, it is not possible from these data, or any other encountered, to generalize about the relative magnitude of environmental impacts of various development activities across the region. The Bank's analysis does conclude that "the unique characteristic of the Caribbean are its environmental diversity, the close interrelations between terrestrial (inland) and marine (sea and coastal) ecosystems, and its strong economic dependence on natural resources". It points to the interdependence of terrestrial and marine resource utilization and economic development issues and prospects.

2.3.2 General Demographic Trends

Much of the environmental degradation in the region is a result of increasing population pressure on finite, and especially underpriced, natural resources. The problems associated with exceeding the carrying capacity of the region's often fragile ecosystems were highlighted time and again. Caribbean-wide annual population growth rates are in the magnitude of 1.14%. Given the youthful population, the demands for food, shelter, water, sanitation, energy and transportation, to mention a

few, can expect to double within the life span of a single generation. Without significant improvements in resource use, management and conservation, the negative impacts on fragile Island ecosystems, and on human living and health standards, are likely to be severe. Fuller discussions of demographics can be found in Annex D: Technical Notes 1.

2.3.3 Basic environmental infrastructure

Included in the basic environmental infrastructure provided by the public sector are three key statistics summarized in Annex D: Technical Notes 3, Table 2.3: *a)* access by the population to piped water, *b)* access to central sewerage systems, and *c)* access to electrical power (the grid). Of significance in these numbers is that most people in the region have access to piped water, only few have access to central sewerage systems (in the best of cases, only 1/4th of the population has access). Access to piped water coupled with a poor water pricing policies will lead to overuse, or inefficient use of water. If water is undervalued (as is the case in nearly all Caribbean countries), people will over-consume. The price paid by water consumers only reflects the cost of treatment and distribution, little or no value is attributed to the capture of rainfall by forests and watersheds. If governments were obliged to buy the water they collect from the watersheds at full cost and pass these costs on to consumers, intact watersheds would gain considerably in importance—demands to manage watersheds in order to keep the water flowing at the lowest possible costs would soon emerge.

It is also important to note that access to sewerage systems does not necessarily mean that all with access are actually hooked up. In Jamaica, for example, because the financial burden to hook up is greater than only paying the monthly fees, many (if not most) opt for the latter. In other countries, people are hooked up to the systems because the initial hookup is capitalized into the monthly fees and paid over a 30-year period. The systems vary between countries. Where adequate hookup policies are absent, there is also a tendency to only install secondary treatment facilities. If few hook up to the system, the installation of expensive tertiary treatment infrastructure will not be cost-effective. The environmental implication of secondary treatment only is that the coral reefs will continue to degrade rapidly because the nutrient load released into the marine environment will continue largely unabated. Tertiary treatment is essential if the objective is to maintain the environmental integrity of the coral reefs.

With respect to energy, the table in Annex D: Technical Notes 3, shows that at least 50 percent of the people in most countries have access to the electric power grid, less in some countries and nearly 100 percent in others. The environmental significance of these numbers is that energy consumption in most Caribbean households (for cooking in particular) is done largely with biomass energy (fuelwood and charcoal), the electricity is used mostly for lighting. Cooking with electricity is far too costly for the majority of households, particularly in the rural areas. As poverty increases in the region (a function of increased unemployment in the agriculture sector), it is reasonable to assume that deforestation will accelerate as more people will become charcoal burners and fuelwood vendors, and illegal wood cutters (timber theft).

2.3.4 Tourism

In recent decades, tourism has emerged as the dominant economic sector in the Caribbean region. The Caribbean region as a whole benefitted from an estimated tourist expenditures in 1996 of some US $13.3 billion, increasing steadily from $9.8 billion in 1992 or an average increase of nearly $900 million per year in nominal terms (Caribbean Tourism Statistics, 1996)[1]. Projected over the next five years, therefore, total visitor expenditures may reach $18 billion in the region in nominal terms by year 2003 if the environmental integrity of the region remains intact. If environmental protection is not prioritized with real investments in the near future, however, as strongly suggested by all institutions and individuals interviewed, tourism will begin to decline in the not too distant future.

While projections for expanded tourism are supported by demographics in the U.S. and Europe (e.g. baby boomers reaching retirement age with high disposable incomes), there are cautionary factors. For one, the ideal sun-drenched vacation may lose its appeal because of growing awareness of sun related skin damage and cancer. Competition for tourism is vigorous, and the opening up of Cuba as a new tourism destination can detract from other Caribbean bookings. With as many hotel rooms in Cancun/Cozumel as in the Caribbean as a whole, Caribbean destinations will increasingly need to market themselves as niche markets, where the quality of the environment, facilities, services and products distinguish them from the competition. All said, however, there are no single sectors with the presence and potential of tourism in most areas within the Caribbean.

Because of its importance, the tourism sector is addressed in greater detail throughout this report and analytically in Annex C. The predominant role that tourism will continue to play in the economies and livelihoods across the region, its relationship with the natural resource base, plus the significant amounts of private investment that it brings with it, make tourism a compelling entry point, for addressing in an integrated, but highly focused fashion, the thematic areas spelled out in the Statement of Work-- namely biodiversity conservation/ecosystem management, sustainable tourism, integrated water management, and economic and social development and sustainable trade.

2.4 Customer Perspectives

2.4.1 Caribbean/US Summit, 1997

This statement expresses Caribbean desires to elicit U.S. cooperation for advancing priority areas under the Small Island Developing States Proposal of Action (SIDS/POA), and other hemispheric Declarations. It also seeks collaboration in other sustainable development areas, including making the Caribbean Sea an environmentally sustainable zone, improving public awareness in the link between economic activity and environmental activity, and in climate change, among others.

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[1] This is based on 183,557 hotel rooms in 1996 and an average occupancy rate of 60.6 percent, increasing from nearly 84,000 hotel rooms in 1992 and an average occupancy rate of 59 percent (estimated).

2.4.2 Strategy Advisory Committee Inputs

The Strategy Advisory Committee emphasized the need to support priority actions under SIDS/POA, and to avoid having the strategy become donor driven. Concern for early and true ownership, and building realistic levels of participation by entities in the region, were stressed. Real consultative processes were recommended to arrive at workable partnerships with public and private players in order to achieve concrete, and sustainable on-the-ground impacts within areas of regional priority. There was also discussion on coordination matters, including funding needs for the ECLAC SIDS Secretariat to perform its role

2.4.3 Technical Consultation Inputs

The Technical Consultation emphasized that a strategic focus on tourism be clear about using it as an entry point to address environmental problems affecting the broader community. Local sensitivities regarding tourism would create real problems if the USAID strategy was perceived to over-identify with hotels and resorts. Clear actions and benefits to the broader community of stakeholders was deemed the only way to build sustainable tourism, and to achieve cooperative relationships. A strategic approach to environmental issues using tourism as an entry point, would necessarily engage the Caribbean Hotel Association, the Caribbean Tourist, Organization and other actors. The issue of coordination was discussed, but there wasn't a clear proposal about specific ways to bringing this about.

2.5 Regional Priorities and Action Plans

In response to the problems and trends discussed above, Caribbean countries have signed, or endorsed, over a dozen international conventions relating to environment. In addition, a number of regionally pertinent agreements and programs act to guide regional priority setting and programming. These are: Agenda 21 (Rio), 1992; The Summit of the Americas Plan of Action, 1994/1998; The Programme of Action for the Sustainable Development of Small Island Developing States (SIDS/POA), 1994; and The Caribbean-US Summit (Bridgetown), 1997.

Of these, the SIDS/POA appears to be the most cited common framework. It identifies fourteen priority areas for action including tourism, and suggest the main national, regional and international actions that should be taken to support initiatives in those areas. It is backed up by twelve Ministerial Decisions articulated in the 1997 Meeting on SIDS/POA Implementation.

The Ministerial Decisions make it clear that cross-sectoral, economic and social development aspects are to be addressed within each priority area. Within tourism, for example, the following types of issues are highlighted:

(i) strengthened mechanisms to ensure the integration of physical planning and environmental principles and objectives in planning for the tourism sector;

(ii) increased funding to manage the natural resources on which the region's tourism depends;

(iii) strengthened mechanisms to increase local participation in the industry;

(iv) proposed means to mitigate land use conflicts in order to ensure continued access to land by local citizens; and

(v) development of an integrated approach to tourism to encompass sustainability with particular reference to linkages between tourism and other sectors, such as agriculture and culture, and ensuring stakeholder participation.

It is also important to note that the framework for priority setting and coordination within the region is currently under discussion within the context of the Association of Caribbean States (ACS). This supra-Caribbean organization, embracing both the island states and bordering countries of the Caribbean, has a mandate to formulate and apply policies and programs for cooperation in the protection and conservation of environment and natural resources. The ACS presented a draft regional Environmental Strategy and respective Program of Activities at a high-level conference held in Port of Spain on September 23-25, 1998. Related topics included, among others, SIDS/POA achievements, CARICOM proposal to declare the Caribbean Sea as a Special Zone in the Context of Sustainable Development, and a draft agreement for establishing the Sustainable Tourism Zone of the Caribbean.

2.5.1 Constraints to Implementing Regional Priorities

Given that the SIDS/POA is the consensus framework and action plan for addressing priority environmental problems in the region, an examination of the major obstacles to moving that agenda forward is useful. A 1997 survey conducted by the Economic Commission for Latin America and the Caribbean (ECLAC) identified both regional and national constraints. It should be noted that ECLAC/Trinidad and Tobago serves as the Executive Secretariat for SIDS/POA in the Caribbean. The survey showed that inadequate funding, lack of coordination, lack of regional vision, duplication of efforts, competition for scarce human and financial resources, lack of commitment by governments, and apathy of civil society were serious impediments to implementing SIDS/POA at the regional level. The team's further discussions revealed other contributing factors. Among these were:

(i) governments were reluctant to apply for available loan financing for environmental projects, preferring soft money for such purposes;

(ii) funding proposals for environmental projects are often not deemed "bankable" by private banks, and even by development lending agencies;

(iii) governments feel that the rhetoric of regional agendas doesn't connect with the real, ground-level problems they face, and they don't see many working models;

(iv) implementing agencies and resource managers feel they are besieged with demands to implement programs, and account for results, which are handed down with too little regard for their own priorities, capabilities, potential conflicts of authorities among line agencies, and real local ownership.

2.5.2 Steps to Remove Constraints

The ECLAC survey documented proposed solutions which included: increasing allocations from international funding organizations; more efficient use of existing funds; optimizing the roles of existing coordinating mechanisms; and development of databases that would facilitate networking and technical exchange.

Clearly, there are many additional approaches to implementing specific parts of the SIDS/POA agenda which were brought out in the Team's meetings and in plans and documents reviewed. For instance, engaging greater private investment in areas, such as tourism, where there is a shared concern for quality of the environment, makes sense. Demonstrating the economic value of environmental investments to policy-makers, and specific financial implications to stakeholders and bankers, can help mobilize more funding and investments. Cooperative undertakings, and indeed equity contributions, among various stakeholders can bolster the "bankability" of needed projects in some cases. (See Annex D: Technical Notes 4 on the Caribbean Banking System). Creative uses of economic instruments to effect environmental improvements are being widely discussed. The identification, documentation and wide dissemination of "best practices" and of case studies which demonstrate innovative problem solving were suggested as means to stimulate practitioners and convince policy-makers. Expanded use of existing regional information sharing networks were also frequently cited. Examples of these include the Caribbean Ecotourism Support Network, the Caribbean Energy Information Network, Caribbean Environmental Reporters Network, Caribbean Marine Protected Areas Management Network.

2.6 Donor Responses and Strategies

2.6.1 USAID Regional and Bilateral Assistance

USAID's environmental assistance programs currently operate at both regional and bilateral levels. Consultations with the bilateral Missions (Jamaica, Haiti, Dominican Republic, and Guyana) revealed that only two (Jamaica, Haiti) have environmental strategic objectives.

USAID/Dominican Republic. **While the $11 million DR program currently has no stand-alone environmental objective, it has been very involved with promotion of renewable energy. In conjunction with Haiti, the Mission is also proposing the cross-border Artibonito watershed management initiative. Options for further environmental involvement are under discussion. The Mission expressed interest in coordinating with a regional environmental program.**

USAID/Haiti. **The large ($170 million) program deals directly with environmental degradation as one of its five strategic objectives. A concern for the isolation of Haitian professionals and agencies made connection and interaction with a regional program appealing to that Mission.**

USAID/Guyana. **The $3.0 million program in Guyana doesn't deal with environmental issues directly. An interest exists in regional program support to biodiversity-based ecotourism and related income generating activities.**

USAID/Jamaica. **The $12.0 million bilateral program has a history of involvement in many of the issues identified for the regional program, particularly in working to improve environmental practices within tourism. The Development of Environmental Management Organizations (DEMO) has provided policy support to lead public sector and non-government organizations and has been instrumental in establishing Jamaica's first national parks and protected areas. USAID has provided key assistance in the establishment of the Environmental Foundation of Jamaica which targets NGO environmental initiatives and capacity building (the EFJ Trust Fund totals over US$10 million and currently finances approximately US$1 million/year in grants). Recent new project starts focus on coastal water quality improvement in tourism areas (CWIP) and improving environmental systems within tourism facilities (EAST). The Mission's environmental strategic objective embraces highly relevant activities relating to broader sectoral and stakeholder participation, as expressed in the recent "Ridge-to-Reef" strategy exercise. High interest was expressed in sharing related experiences with others around the region.**

In terms of centrally funded USAID regional programs**, the Caribbean Environmental Network (CEN) and Environmental and Coastal Resources (ENCORE) projects have emphasized protected areas management, private sector environmental initiatives and grassroots capacity building. The Parks in Peril Project has targeted sustainable management of key national parks. Close collaboration with highly supportive elements of the Hemispheric Free Trade Project (HEFTE), such as hotel environmental standards, clean technologies, food processing and safety, would benefit the regional program. Similarly, building upon select activities in ENCORE, and particularly continued support for such strategically pertinent examples as the Soufriere Marine Management Activity, is highly recommended. The regional environmental program will need to look at how best to capitalize on the experience to date achieved through the Caribbean Environmental Network (CEN), and particularly at the active information dissemination and networking activities. Continued interaction and coordination with the Office of Foreign Disaster Assistance (OFDA), and with mutually reinforcing areas outlined in their new strategy for the Caribbean (not yet available), is very important.**

2.6.2 Other US Government Assistance

Other USG agencies involved in pertinent environmental issues within the region include the US Forest Service, US Environmental Protection Agency, and National Oceanographic and Atmospheric Agency. These organizations do not have budgeted, long-term, ongoing programs in the area, with the exception of NOAA's hurricane tracking activities. They do

respond to periodic requests for short-term technical assistance in specialized fields. As such, the Regional Environmental Program could help partners access this type of support on a case-by-case basis.

2.6.3 Other Donors

There has been a long history of bilateral and multilateral donor assistance across the region. In the past decade, their resource flows have tended to decline, but the proportion given for environmental activities has increased. There are reportedly at least 18 bilateral and multilateral donors engaged in environmental initiatives in the region. Unless there is sufficient coordination, there is considerable risk of duplication of activities and competition over scarce capacity to address environmental problems.

One issue faced by the Team is that there is not a mechanism for keeping track of donor assistance in the region, nor is there agreement about what constitutes elements of assistance attributable to environmental interventions. A table is presented in Annex D: Technical Notes 5, which begins to document donor activity in areas important to the strategy. In discussions with donors, there was agreement that few donor coordination meetings had occurred in recent years, that there was only partial awareness of the range of donor-assisted activities in the region, and that better coordination was needed. In part, this issue reflects the heterogeneous makeup of countries, histories, and geography. It also reflects the fractured nature of regional organizations, and different focuses and approaches among donors themselves. The upshot of this for the strategy is that coordination makes the most sense when it is done for very specific purposes, and often within specific localities. Otherwise, the transaction costs are too high. This said, there is a strong conceptual linkage, and potentially concrete opportunities for interaction, between the regional strategy and the high priority being given to managed tourism by the World Bank. On a practical level, the analytical studies on tourism that the Bank plans to undertake (cost-benefit, environmental impact assessments, social and economic impacts), can serve to enrich and focus USAID's strategic approach. Conversely, the ground-up practices and approaches, and policy work that the regional program will help strengthen and disseminate across the region, will help set the stage for better use of subsequent Bank lending. This interaction warrants close coordination between USAID Regional Program management and Bank representatives in the region and Washington.

3. PROPOSED STRATEGIC PLAN

3.1 Strategic Framework: Incorporating Stakeholders' Views and Lessons Learned

Sustaining growth and improving livelihoods while protecting the environment and valuable ecosystems is no simple task. Growing from the documentation of economic growth and environmental trends, from interviews and roundtable meetings with more than 100 leaders and professionals from throughout the Caribbean region and from consideration of USAID and other donor assistance, a variety of guiding principles have emerged that frame a regional strategy for USAID environmental assistance linked to economic growth:

3.1.1 Strengthen Existing Regional Initiatives

Caribbean leaders view the SIDS/POA as a widely accepted framework for addressing regional and national priorities and agree that any new initiatives should link into appropriate elements of that framework. USAID has reviewed the SIDS/POA and agrees that it provides an appropriate framework to guide regional activities. The USAID strategy will take stock of current and planned initiatives by other donors within this framework and tailor proposed USAID activities to complement and build upon these initiatives.

3.1.2 Build Upon USAID's Comparative Advantages

The strategy will build upon USAID strengths that have emanated from experience throughout the world as well from within the Caribbean region and from bilateral activities within specific Caribbean nations. USAID's efforts to strengthen private sector leadership for improved environmental practices is a set of experiences that enables USAID to apply lessons learned from throughout the world to the Caribbean region. Extensive regional experience in protected areas management and grassroots capacity building (ENCORE, CEP and PiP projects) and bilateral experience within the Caribbean in tourism policy and development, capacity building of NGOs/CBOs within tourism destination areas, and natural resource policy development (TAP, DEMO, EAST, EFJ) provides an unique comparative advantage for USAID participation in the region's efforts to prevent further environmental degradation. In addition, USAID has an additional unique advantage in its ability to call upon the scientific expertise and technical resources of universities and US environmental management agencies to assist regional initiatives.

3.1.3 Encourage Economic Sustainability

A rationale for infusing USAID's regional environmental strategy with a strong economic sustainability orientation was endorsed by many institutional representatives from throughout the region (particularly the WB, CDB, IDB, ECLAC, and UNDP). This guiding principle would develop the capacity in the region to express environmental values at risk in economic terms and encourage widespread use of evaluations in determining the economic sustainability of environmental interventions.

3.1.4 Mobilize and Leverage Other Financial Resources

Governments cannot afford to meet the financial requirements of the many efforts needed to reverse environmental degradation across the region. Thus, the strategy will leverage limited USAID funding with other financial sources to the extent possible. It will especially target private enterprises with strong vested interests in the region's environmental assets. The strategy also will look to combine new private sources with other community stakeholder initiatives and resources in order to more productively address shared environmental challenges. Therefore, a key criterion in selecting activities to receive support will be their linkage with and leverage potential to actors in the private sector and to other donors.

3.1.5 Engage Communities and Civil Societies

NGOs and CBOs are key partners in providing the driving force for USAID's sustainable development efforts. To release this force, the strategy will assist in further developing participatory practices that lead to increased "ownership" and self-reliance. Numerous success stories of community-based management of natural resources in the region (Negril, Soufriere, Matura, etc.) demonstrate the promise of commitment to this approach and provide a body of knowledge on which to base guidelines and best practices. Further focussing USAID interventions "on-the-ground" was endorsed by many of those interviewed in the preparation of this strategy and by participants at USAID's Regional Program Advisory Council meeting in Barbados and the Technical Consultation held in Antigua (both in September, 1998).

3.1.6 Improve Public Policies and Regulatory Frameworks

The strategy will build on the ground-truths and insights documented at local levels to identify, inform and promote policies that encourage private investor and community stakeholder support for environmental improvements.These might include import duty relief for cleaner technologies; regulations permitting local collection and retention of user fees; creation of economic valuation instruments; enabling legislation for improved parks and protected areas management; etc. The focus for policy analysis and reform activities will be those initiatives that have the greatest promise for replication and demonstration throughout the region.

3.1.7 Encourage Sustainable Tourism

One of the strongest arguments for environmental protection can be articulated from the tourism sector. Tourism is the most important economic sector in the region, is dependent on the quality of the environment for its success, has the most to lose from continued environmental degradation and continues to be major source of investment in the region. As the urgency increases to protect the environmental assets on which tourism depends (coral reefs, water quality, natural areas), it is incumbent upon tourism interests to provide leadership and finance for environmental management initiatives. Sustainable tourism is an emerging development thrust among Caribbean and donor organizations, as it implies benefits to the environment, economy and to communities. Delivery on that promise is no easy matter. USAID's strategy draws upon dimensions of environmental management

with which USAID has considerable experience, including private sector strengthening, grassroots capacity building, protected areas and natural resources management, and tourism policy development.

3.2 Overview of the Strategic Approach

The proposed Regional Program Strategy provides a framework for USAID collaboration with a wide range of interested partners--regional institutions, national agencies, NGOs/CBOs, donors, private organizations and selected public action groups--to better manage the region's environment. A key strategic theme is alignment of environmental concerns with those of economic development through sustainable tourism. This is a powerful tool in convincing those who both depend on the environment but who also contribute to environmental degradation, to become part of the solution.

The strategy proposes three tracks for USAID environmental assistance in the Caribbean region:

(i) Strengthen Private/Public/CBO Partnerships at the Local Level

The strategy seeks to achieve tangible on-the-ground environmental improvements in selected areas of environmental and economic significance while building stakeholders constituencies to "push from below" for policy change and accountability.

(ii) Mobilize Financial Resources

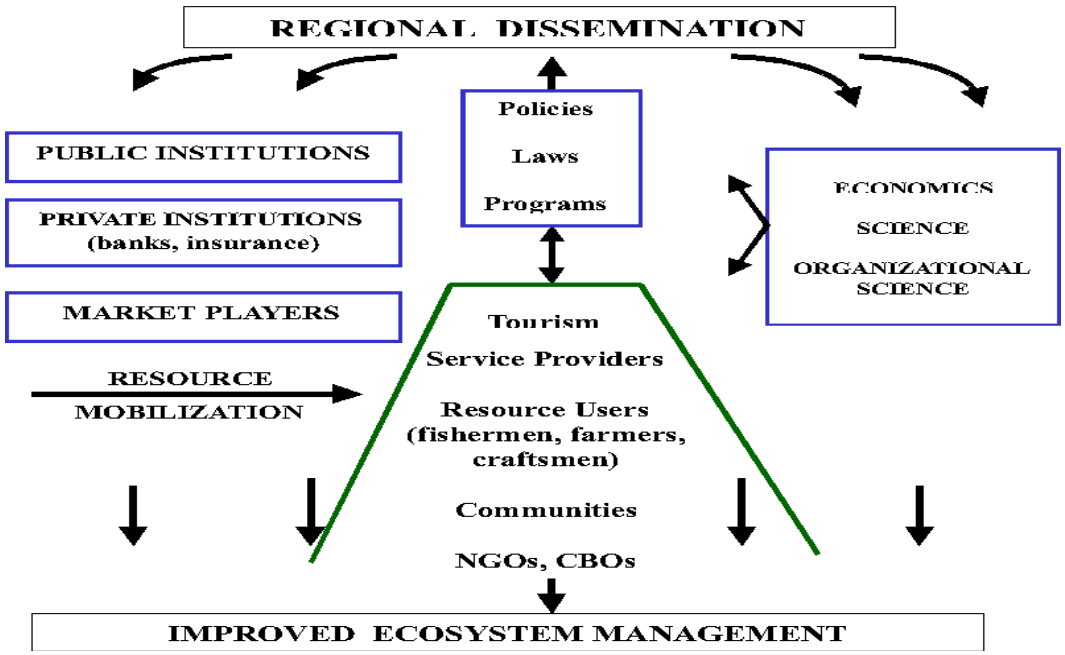
The strategy seeks to bring the private sector into full partnership with Caribbean regional, national and local institutions, with USAID, and with other donors, to address environmental issues of immediate economic concern throughout the region.

(iii) Enhance the Policy Environment

In cooperation with regional development partners, including donors and universities, the strategy fosters the application of scientific research and economic instruments to inform stakeholders and to enhance the policy climate for private and community actions to flourish.

The interrelationships and flow of strategy components are diagrammed below. Tourism and other local stakeholders promote and benefit from policies, laws and programs which help them to better manage economically crucial ecosystems. This process is informed by sound economics, science and organizational strategy. Best practices and examples of the

"art of the possible" are disseminated across the region, influencing public, private and community actions favoring improved ecosystem management.



3.3 Illustrative Activities

3.3.1 Strengthen Private/Public/CBO Partnerships at the Local Level

A primary theme of the proposed strategy is that improving environmental quality in the region can only be achieved through an integrated approach to the management of natural resources which is based on sound economic and scientific principles and which engages and benefits all stakeholders--especially local citizens. A primary thrust of the regional environmental assistance program is therefore at the field level in areas where there are opportunities to demonstrate that the use of natural resources by the private sector and local communities can avoid pollution, mitigate already degraded resources and result in the sustainable management of natural resources for present and future generations. A series of "Sustainable Initiatives for the Environment" (SITE) activities are proposed to serve as models for environmentally sound practices in each country and throughout the region in order to:

- **demonstrate best practices in integrating scientific understanding, economic valuations and organizational principles into local stakeholder-driven ecosystem protection and management;**

- **take practical actions to address "ridge to reef" environmental protection, pollution reduction, and land use/natural resource management, e.g.**
  develop marine and terrestrial protected areas as appropriate;
  establish data collection and monitoring programs;
  enhance nature and cultural heritage tourism attractions while expanding income and employment opportunities for local citizens;
  achieve pollution elimination and waste and energy reduction by hotels; and other environmental actions;

- **distill and distribute "best practices" from these and other activities to inform policy-makers, politicians and general public;**

- **achieve financial sustainability by attracting private financing, voluntary contributions from tourists, user fees, trust funds and other strategies;**

- **apply knowledge gained from these activities to policies, institutions and procedures at the national and Caribbean regional levels.**

This program of activity recognizes that local capacity building must be part of an integrated development effort. It will build local capacity within the context of environmental policy reform and with greater reliance on private sector finance and leadership. Initially, 4-6 regionally

significant SITEs would be identified for assistance. These would be areas that both 1) make an important contribution to a nation's economic base and 2) are undergoing or expected to undergo environmental stress to an extent that the national economy may be impacted or environmental resources of national significance may be threatened.

3.3.2 Enhance the Policy Environment

The second strategic initiative is to link on-the-ground capacity building and private sector leadership with a supportive enabling environment at the regional and national levels. Achieving an improved "policy climate" can yield rapid and large-scale results and the private and community action will make the changes deeply-rooted and long-lasting. There are considerable opportunities for USAID-supported efforts to improve integration of environmental science and economic valuations into the policies and programs in the region, as well as for the use of economic instruments as environmental policy tools. The strategy would identify policy constraints and research priorities through the above field interventions. At the same time, demonstration activities at the local level can be used to test the efficacy of new policy approaches and application of scientific research. A focus for policy analysis and reform activities will also be those initiatives that have the greatest promise for replication and demonstration throughout the region. Training of professionals in the use of new policy and analytical tools will also be an important element.

This program of activity could be implemented through a policy support/technical assistance/ training "fund" made available to provide a range of assistance targeted on the important environmental policy issues linked to the achievement of strategic results. The principal clients for these resources would be regional institutions, university centers and national governments, although business organizations, regional NGOs, and others could participate. Illustrative technical and policy support activities would be assistance to:

- **UWICED for organizing a university-based, policy consultative group that would analyze economic contributions of natural resources and environmental implications of alternative economic development paths as well as identify and develop market-based environmental policy measures, economic valuation instruments, etc.;**

- **marine science organization partnerships in the region (e.g., UWI/CMS, CARICOMP, NOAA and other US institutions) for focused and applied scientific research, data synthesis and interpretation, dissemination and training on topics essential to improving management prescriptions and policy definition for productive environmental assets at risk, e.g. coral reefs and near shore marine environments which underwrite tourism, fisheries, coastal biodiversity and shoreline protection;**

- **CTO to develop "best practices" of policy and regulatory frameworks highlighting success stories of national parks legislation; ecotourism carrying capacity standards; innovative enforcement techniques; models of integrated planning and management systems for tourism destination areas; etc.;**

- **CERN (Caribbean Environmental Reporters Network) for developing high quality printed and audiovisual productions to communicate to decision makers and the public facts associated with, for example, the economic implications of natural resource decisions;**

- **OECS/NRMU to develop policy and program guidelines and training for member states on sustainable tourism; and**

- **CCA, CANARI or other NGOs for compiling and disseminating best practices which illustrate creative and sustainable approaches to achieving stakeholder investments in resolving resource use issues in ways that more sustainably protect critical underlying ecosystems and build on market forces to reinforce environmentally responsible practices and ensure sustainable livelihoods.**

3.3.3 Mobilize Financial Resources

As noted earlier, government and external donor resources are unlikely to increase sufficiently to finance an environmental agenda capable of addressing environmental degradation in the region. The proposed SITE activities cannot be undertaken by the stakeholders in the areas without initial technical and financial assistance. Initial donor support for traditional infrastructure projects and social programs will be essential to encourage private sector financing of environmental improvements.

Private Sector Finance

A key theme of the strategy is that private sector leadership, promotion and financing of environmental improvements is an essential ingredient and that it is in the financial interest--especially of the private tourism sector--to improve and diversify the tourism product and to protect environmental assets. Below is an illustrative example of how this might work.

(i) **P***rivate sector "within the gate" environmental system investments*

The strategy proposes to first assist CAST's efforts to work with hotels and tourism facilities on consolidating gains made in recent years to encourage internal environmental system improvements and reduced operating expenses through waste reduction. USAID initiatives (EAST and HFTE) hope to demonstrate private sector receptivity to these concepts. Broad acceptance and implementation of these measures offers the promise of rapid and large-scale results across the region--all with private sector finance. Improving the internal operations of tourism facilities is also an important first step toward building owners and operators' commitment to investing in "beyond the gate" environmental improvements. Illustrative technical support activities include assistance to:

- **CAST and CTO to reach a Caribbean system of standards and indicators that will lead to sustainable tourism (e.g., Green Globe or similar) certifications for tourism facilities;**
- **local hotel and tourism associations to promote "greening" concepts, to organize demonstrations and disseminate best practices/success stories of environmentally friendly technologies, and assist owners and operators of tourism facilities to access technologies and equipment; and**
- **individual tourism enterprises to enable learning from each other through "Caribbean-to-Caribbean" consultations by individuals engaged in environmental system improvements and familiar with financial/administrative implications of environmentally friendly practices.**

(ii) *Private sector "beyond the gate" financing of tourism area environmental improvements*

The strategy proposes also to build on the capacity and commitment of the private tourism sector to financially support and become a driving force in the sustainable development of tourism areas-- initially with those identified as SITEs and ultimately to tourism areas throughout the region. To release this force, USAID may provide assistance to:

- **hotel and tourism associations to fund staff and technical support to enable them to provide leadership in working locally through SITE activities to engage community groups and build local capacity to address tourism area environmental issues;**
- **CAST and CTO to initiate a program of "green tourism areas" certification that will enhance the image of these destinations in the international tourism market (and thereby help the region increase its market share of tourist arrivals and increase the value of its tourism product) and provide a set of standards for private sector/community environmental partnerships;**
- **CAST, CTO and hotel and tourism associations to disseminate results in order to encourage increased private investment in tourism areas throughout the region by providing models of best practices and alternative approaches to achieving desired results; and**

- **CBOs and others to encourage private finance of new nature and cultural heritage tourism ventures that provide local income (through user fees) and employment, diversify the local tourism product and achieve environmental improvements.**

(iii) *Private/Public/CBO/Donor partnerships to achieve financial sustainability*

The strategy proposes joint private/public/CBO/donor initiatives to sustain long-term finance for SITE environmental improvements. Foremost among these could be the establishment of regional and local environmental trust funds whose focus would be to provide endowments for the long term finance of improvements within SITE areas. Possible sources of funding include:

- **tourist voluntary contribution programs that are built on tourists' inclinations to contribute to activities that improve the environment of the place they have enjoyed;**
- **grants and/or endowment funding from foundations;**
- **grants from major international private stakeholders (e.g., American Airlines, British Airways, American Express, Florida-Caribbean Cruise Lines, etc.);**
- **bilateral and multilateral (including GEF) grants;**
- **bilateral debt relief programs (e.g., the Environmental Fund of Jamaica);**
- **levies on the incremental tax revenues that a tourism area generates; and**
- **other fundraising initiatives.**

USAID may provide assistance to:

- **local NGOs to develop promotional materials for tourist contribution programs;**

- **hotel and tourism associations to develop mechanisms to enable both ease of contributing and transparency of transferring contributions to a local trust fund;**
- **local committees to developing trust fund management structures, financial accountability and local project funding strategies;**
- **CTO to work with national governments to assure that contributions go to the trust funds for environmental objectives and are not used as general budgetary revenues; and**
- **work with other donors, foundations and international stakeholders to determine feasibility, design and operational procedures of a regional trust fund.**

Donor Leveraging

USAID will act as a catalyst to attract other donors to fund the selected SITE areas. One obvious forum in which to propose the concept and coordinate financing is through the Caribbean Group for Cooperation in Economic Development (CGCED), which meets regularly every year to eighteen months, and the secretariat for which is provided by the World Bank.

Several funding sources where leveraging is probable are briefly discussed below.

- *International Development Banks.* **The Caribbean Development Bank (CDB) is the biggest environmental lender in the region. The current portfolio amounts to some US $150 million for a variety of projects including disaster mitigation, solid waste management, rural development, and human settlement projects, plus another $105 million now being prepared for approval over the next four years. The World Bank (WB) is currently preparing its own environmental strategy for the Caribbean region with a strong focus on managed tourism. The Inter-American Development Bank (IDB) is also a major lender in the environmental arena—recently a strong focus on integrated watershed management has emerged.**

  The Global Environmental Facility is currently implementing an environmental portfolio throughout the region amounting to some $81 million plus $53 million of co-financing (UNDP, 1997). Streamlined procedures for GEF medium-sized project recently became operational and this is expected to make GEF funding more accessible and facilitate smaller projects.

- *Bilateral Donors.* **All bilateral donors in the Caribbean region should be viewed as candidates for leverage funding in the public sector. In addition, there are opportunities to access additional funds through the USAID Global Bureau, particularly the offices dealing with global climate change and biodiversity concerns.**

- *Private Sector Leverage Funding*. **The Overseas Private Investment Corporation (OPIC) is a candidate for leverage funding in the private sector—the most important sector for implementation of this regional strategy. OPIC's involvement in the tourism sector, for example, provides opportunities for securing funding for investments in sustainable tourism infrastructure. Other foreign investment can be attracted through the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) of the World Bank Group, and the private sector arm of the Inter-American Development Bank (IDB).**

- *Local banks.* **Finally, USAID's assistance can help bring sound projects to Caribbean banks and help banks understand the financial implication of improved environmental practices and initiatives.**

3.4 Implementation of Proposed Activities

3.4.1. Regional Environmental Program Coordinating Committee

The Team recommends that a Regional Environmental Program Coordinating Committee (REPCC) be evolved from the present Advisory Committee. Its primary role would be to provide strategic program guidance. It would be composed of the primary regional institutions and stakeholders engaged in the program, including the OECS/NRMU, UWI, CTO, CHA/CAST, CCA, etc. Responsibilities might include:

(i) Review of proposed SITE activities
(ii) Identification of economic analysis and scientific research priorities
(iii) Coordination of Program activities with SIDS/POA and other donor activities
(iv) Review of the annual Regional Program Workplan
(v) Recommendations for program funding priorities
(vi) Review of work progress
(vii) Advice and assistance on the regional disseminations plan

The REPCC would meet at least once annually but could also function as a "virtual" group to maintain regular flows of ideas and information between individual members and within the group.

3.4.2. Implementing Organizations

It is anticipated that grants would be provided to a variety of organizations to implement the program. These organizations would include university centers; regional institutions such as CTO, CHA/CAST, CCA, and others; subregional institutions such as OECS/NRMU; private trade associations such as local hotel and tourism associations; local committees coordinating and implementing SITE activities; and CBOs or NGOs carrying out program activities.

3.4.3. Technical Assistance Contractor (TAC)

Program implementation would probably need to be led by a small contracted team likely comprised of:

(i) one long-term environmental management/policy development expert experienced in the Caribbean and elsewhere in the world;

(ii) one long-term Caribbean community development expert who can show how stakeholders can work together;

(iii) a number of short-term regional and international experts who will be called upon to supplement the skills of the long-term advisor in specialized areas; and

(iv) a long-term financial management specialist who will be responsible for addressing the program's procurement and expenditure functions and USAID's funds control and accountability requirements.

3.4.4 Proposed Activity in the Guyana Shield

The strategy design team was asked to look at strategic and programmatic opportunities to include the Guyana shield subregion within the Caribbean strategy. While the biodiversity base and development issues are different from those typifying island states, Guyana is part of CARICOM and some of the issues resemble those found elsewhere in the greater Caribbean basin (e.g. Caribbean coastal zones in Central America).

A preliminary analysis did identify biodiversity-focused ecotourism, and related community income generation, as a possible option. While still in incipient stages, Guyana's tourism advantage, as is that of the subregion, is ecotourism. Initial needs are for better scientific understanding of high potential areas and early involvement of indigenous communities, including development of craft markets (including entry into the broader Caribbean tourist markets), training and other preparation activities at the community level.

The field visit identified Iwokrama (Guyanese NGO) as a potential lead entity, capable of undertaking scientific and community activities. Iwokrama is also interested in networking with other comparable activities across the subregion. Much could be accomplished through a grant to Iwokrama for core organizational and inventory work, plus management of small community focused sub-grants and training.

4. REGIONAL PROGRAM STRATEGIC OBJECTIVE AND RESULTS

4.1. Strategic Objective

The major *strategic objective* of the Regional Environmental Program is to Reduce degradation of fragile ecosystems of significant economic and biodiversity importance. **That is possible through the program's focus on measures to mobilize significant private sector, and local stakeholder, resources and to apply these to more comprehensively, and sustainably, manage natural tourism assets at risk. Such "hot spots" can be identified throughout the Caribbean. The best practices and supporting policies advocated through the regional program, will be demonstrated and disseminated to actors in similar areas.**

4.2 Intermediate Results

The principal *intermediate results* needed to arrive at the strategic objective include:

(i) achieving integrated approaches that link sustainable tourism to other sectors and ensure relevant stakeholder participation;

(ii) mobilizing tourism industry and local stakeholder investments into environmentally sound technologies, improved practices and management systems,and;

(iii) enacting policies, laws and regulations which stimulate greater private adoption of environmental technologies, and greater local resource generation for community environmental priorities.

4.3 Performance Indicators

Among the possible indicators for measuring progress are:

(i) tourism industry groups are formally working with other stakeholders to implement a common agenda leading to better ecosystem management.

(ii) tourism establishments and the areas in which they operate are achieving certifiable environmental standards.

(iii) increased local spending on the resolution of environmental problems, including funds from inside and outside the areas.

(iv) local constituencies are involved in dialogue with national decision-makers regarding policies needed to facilitate local environmental action and finance.

(v) model policies and practices, including self-financing schemes, are documented and disseminated across the region.

4.4 Critical Assumptions

The most critical assumptions relate to the *willingness of private players (investors, stakeholders) to embrace a common environmental agenda.* While hotel operators, for example, recognize that "within the gate" issues of waste water treatment, sewerage and sanitation, energy conservation, and protection of beaches, need to be addressed, it is not as clear that these, and other tourism players,are fully prepared to work on "outside the gate" issues. They realize that major causes of degradation of natural tourism assets might well be outside of their properties. They are not, however, experienced in dealing with other stakeholders (communities, fishermen, much less hillside farmers), negotiating acceptable compromises where resource conflicts arise, and in leading community initiatives. Other interlocutors do exist, (NGOs, CBOs, agencies), but the process of building constituencies of stakeholders may take longer than expected. The program, of course, would choose to work in areas where headway has already been made on these issue. It is assumed that broader knowledge of how such processes have been brought about will stimulate others to try.

Another assumption, is that policies can be defined and enacted that provide incentives favoring local environmental investments and resource mobilization for locally directed environmental initiatives. Such policies already exist in some countries, and their effectiveness can be demonstrated. It is assumed that broader awareness of such precedents and best practice models will speed up the adoption of suitable policies across the region.

4.5 Linkages with USAID Goals and Objectives

The proposed objectives and intermediate results for the environmental strategy support and reinforce the Agency-wide goal of managing the environment for long-term sustainability. **This is clearly done through efforts to identify and enlist local stakeholder financial commitments to improve ecosystem management and environmental practices, to bring sound economic valuation and science to bear on problems, and to build supportive policies.**
Similarly, the Caribbean Regional Environmental program (CRP) will be directly responsible for achieving the Regional Strategic objective of "increased protection of key natural resouRces", initially in specific sites, but subsequently throughout the region.

4.6 Linkages with Other Regional Program Components

The CRP is built around four components--Trade, Environment, Poverty Alleviation and Law and Justice. While the Environmental Program bears principal responsibility for achieving the environmental strategic objective, environmental aspects of the other components will need to be treated. The sum of the direct and those supportive environmental aspects will produce a much more substantial set of environmental impacts, while sustainably furthering other specific strategic objectives.

Environmental issues underlie and are inextricably linked with the other CRP components. The need to explicitly identify and build in these, and other synergies, is crucial if the CRP is to have a meaningful impact across the Caribbean.

TRADE: Environmental considerations condition access to markets. Negotiated entrance by CARICOM as a trade bloc to the FTAA or EU markets will require all members to demonstrate an acceptable and common framework of environmental laws, regulations and enforcement mechanisms. The position of the group will be no stronger that the weakest link. USAID assistance can help assess, upgrade, and, to the extent possible, harmonize laws and standards.

Similarly, individual products must meet environmental norms and safety standards of importing countries. In some cases, certifiable environmental management systems and practices are needed all along the production and transformation process (e.g. HACCP, ISO 14,000). Knowledge of such requirements and access to sources of environmental products, services, information, and support are areas where USAID can be of help.

POVERTY ALLEVIATION: The link between poverty and environmental degradation is well known. The problem is not inherently environmental, but rather one of alternative sources of livelihood, or at least ones that do less damage to the environment. For example, helping farmers who lose subsidized markets for their bananas to develop alternative crops and markets which are both more profitable as well as environmentally more sustainable (e.g. organic products) is key. Creating recycling schemes (and reinforcing policies), ecotourism approaches that engage local communities, and reforestation activities in critical watersheds are illustrations of job creation with environmental benefits. There are many more. USAID's program can seek out and give preference to such win-win alternatives.

LAW AND JUSTICE: The insidious violence done to people, and particularly relatively defenseless people (children, poor communities) by polluters and other environmental offenders is as least as egregious as that done by criminals. Training judges, advocates and prosecutors in environmental law, developing environmental law curriculum at UWI, supporting networks for environmental lawyers and journalists, focusing research on gaps in current environmental statutes are sorely needed activities.

4.7 Sustainability

4.7.1. Ecological

A direct target of the strategy is improved protection of ecosystems at risk. The strategy seeks to enlist market players and incentives in processes leading to less-damaging, and biodiversity enhancing practices. As conditions currently stand, not only will current trends lead to destruction of valued habitat and ecological balances, but this will have profound effects on the economies and peoples in the region. Where possible, the strategy seeks to engage local stakeholders, and the resources and initiatives they can bring, to more sustainably address environmental threats.

4.7.2. Economic

Unlike ecological sustainability, economic sustainability refers largely to recurrent cost issues. A principal concern being addressed by the strategy is to find creative and sustainable ways for stakeholders and countries to better meet the recurrent costs of maintaining the environment. Excessive reliance on government funding or donor support is clearly not sustainable. Best practices in engaging private sector resources and in mobilizing community resources are to be developed and disseminated around the region.

4.7.3. Institutional

An important component of the approach advocated in the strategy, is building stakeholder involvement into the institutional fabric. Local constituencies for environmental improvements and safeguards, not only ensure longer-term commitment but also can act to lobby for policy and other reforms which support and expand similar actions in other sites. The USAID strategy does not seek to build new entities, per se, but to create conditions favoring the natural, and self-sustainable, evolution of local organizations. It will also work with key partner institutions to help bring their ongoing programs and resources to assist local initiatives.

5. RESOURCE REQUIREMENTS

The suggested program for implementing the strategy consists of core components--mobilizing largely private resources, strengthening stakeholder partnerships within specific sites, and enacting policies that encourage investment and resource mobilization from stakeholders. These are illustrated in Section 3 of this report and could entail work in at least four sites, technical assistance and exchange, economic and scientific data interpretation and training, small facilitating grants, documentation and regional dissemination of best practices.

Under the prevailing, but low budget option ($8.0 million), **a modest but critical mass of work could be achieved in four principal sites. It would focus more, but not exclusively, on "within the gate" issues and on building interactions among those most immediately proximate stakeholders within the tourism core areas. Sufficient analysis of experience, and economic valuations could occur to inform policy. Limiting the site work to four areas, will not provide as balanced coverage of diverse regional situations, nor very high regional visibility.**

Under a medium budget option ($12.0 million)**, the number of principal and secondary sites could be expanded to seven or eight. A broader range of stakeholder involvement would be possible from the outset, including "beyond the gate" cases with hillside agricultural, ecotourism, cultural heritage sites, and terrestrial parks. This will allow both more varied and diverse regional situations to be included, as well as afford the program higher visibility and attention. This option would also permit the incorporation of a biodiversity and ecotourism-linked initiative in the Guyana shield.**

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Annex A: Statement of Work

I. PURPOSE

The purpose of this Scope of Work (SOW) is to develop a Caribbean Regional Environmental Strategy.

II. RATIONALE FOR A REGIONAL APPROACH

Per 1997 LAC/W guidance, the rationale for developing a regional environmental strategy for the Caribbean is based on the need to address problems and issues which arise when actions undertaken in one country within the region demonstrably affect the environmental status of another country within the region. A regional issue is not simply the result of a problem common to a number of countries in a geographic region; it is one that can't be resolved without the cooperation of all of the affected countries. The proposed strategy and results package(s) shall clearly demonstrate why a regional approach is more effective than national efforts for yielding the specific activities/results to be pursued under the Caribbean Regional Program's environmental portfolio.

III. BACKGROUND

The Caribbean is blessed with rich, diverse ecosystems comprised of abundant renewable and nonrenewable natural resources. Although this natural endowment is in many cases the source of the region's economic growth, the natural resource base of the region has become increasingly degraded over the past two decades. Some of the serious environmental problems include deforestation, loss of biodiversity, urban and rural pollution, and the degradation of land, soils, coastal zones, water resources, and urban environments. Farming and excessive habitation in once forested areas and on sloping hillsides, and the harvesting of forested areas for firewood and construction materials are causing soil erosion, siltation, depletion of aquifers and related conditions that threaten the region's water and coastal resources. The misuse and overuse of pesticides and fertilizers have further contributed to soil and water pollution. Coastal and riparian areas are experiencing a rapid increase in pollutants that put coral reefs at risk and contribute to declining fish populations and water quality.

Economic and social changes over the past two decades have also brought policy changes which significantly influence the environment. Faced with structural adjustment programs, governments have cut back on the already limited interventions in social and environmental spending and related planning efforts. The pressure to raise foreign exchange has resulted in shortcuts such as omitting environmental criteria in sectoral legislation concerning forestry, fisheries, industry and tourism. As income earning opportunities have shrunken in the rural areas the rural-urban drift has exacerbated pressures on inadequate urban infrastructure evident by the overburdened waste treatment or disposal facilities.

With all of the concerns of economic, social, and political development being inextricably linked to each other, inclusive of concerns such as illegal immigration, drugs, and crime,

and simultaneously linked to the sustainable use of the region's ecosystems and natural resources, sound management of these ecosystems and natural resources becomes all the more significant.

Since the United Nations Conference on Environment and Development (UNCED) in 1992, the Caribbean has undertaken significant work in defining environmental policies, implementing related programs, and passing relevant environmental legislation. Newly established environmental institutions, ministries and commissions have been set up to develop and implement environmental policy frameworks, plans and projects. At the national level for example, environmental institutions to coordinate environmental management and enforce laws have been established. Environmental legislation has been developed, which includes the formalization of environmental standards and norms. Environmental impact assessments have been applied as tools to incorporate environmental considerations into development activities. Economic instruments have been applied to incorporate environmental costs and benefits into national, program and project accounting. Environmental public awareness programs have informed broad sectors of society about environmental management and pollution prevention, and environmental education programs have been integrated into some school systems.

These initiatives have been developed and implemented by governmental agencies, the private sector, or civil society organizations such as NGOs. While there has been progress, much still remains to be done.

The last years have witnessed the growth and strengthening of a broad variety of subregional agreements and alliances in Latin America and the Caribbean. Some of these are aimed at developing and promoting regional economic and social development while incorporating environmental concerns. Key agreements include the 1994 Summit of the Americas Declaration and Plan of Action, the 1996 Bolivia Declaration and Plan of Action on Sustainable Development and the 1997 Bridgetown Summit Declaration and Plan of Action. Specific environmental treaties and agreements have also been signed such as the UNEP 1981 Action Plan for the Caribbean Environment Program, the 1992 United Nations Conference on the Environment and Development (UNCED), the 1994 Caribbean Action Plan for the Sustainable Development of Island States, the Program of Action for Tropical Forestry, the 1995 International Coral Reef Initiative and Agenda for Action for the Tropical Americas Region and the 1996 UNEP Convention for the Protection and Development of the Marine Environment of the Wider Caribbean.

The Caribbean countries collaboratively played an extremely important role in the preparation of the Program of Action for Small Island Development States (SIDS) at United Nations Conference on Environment and Development (UNCED) in Brazil and in the organization and preparation of final agreements produced through the Global SIDS Conference in Barbados in 1994. These two events have played a major role in raising awareness and promoting discussion on the critical problems of environmental sustainability for small island states.

Some of the major U.S. Government policy objectives as concerns the Caribbean region include: biodiversity and ecosystem conservation as provided by the International Coral

Reef Initiative; the reduction in land-based sources of marine pollution; the advancement of environmentally sound and sustainable hemispheric economic integration and trade in accordance with the guidelines of the Free Trade Area of the Americas (FTAA) initiative; economic diversification which expands beyond the inefficiently produced commodities such as bananas in this region; poverty reduction; social and political stability; and reduction in drug trafficking.

The United States government recognizes the global value of the region's natural resource base and the development constraints facing the Caribbean's small economies and fragile natural environment. The challenges facing the Caribbean region were acknowledged most recently in the 1997 Bridgetown Summit Declaration and Action Plan:

" We note that the Continental Caribbean...contains, in the Guiana Shield, one of the last major sources of fresh water on the planet. The Caribbean possesses many of the world's oldest known genetic species of marine and terrestrial biodiversity of significant scientific and commercial value...We also recognize that the major economic activities of the Caribbean -- tourism, agriculture, mining petroleum, bauxite, gold and other minerals), fishing and forestry--are extremely dependent on a sound environment. The sustainability of these economic activities and their continued contribution to the development of the Caribbean is inextricably linked to the preservation of the environment."

IV. STATEMENT OF WORK

USAID/Jamaica, in collaboration with USAID/LAC/RSD and USAID/Global/ENV, (per DAEC Cable 99670 dated May 1997) will prepare a medium-term (5-8 year) strategy for regional environmental initiatives in the Caribbean.

The Strategy development will focus on the preparation of a 5-8 year environmental strategy for the region. This will involve comprehensive analysis and prioritization of the environmental issues facing the Caribbean region. The end product will be a strategy to address these priority concerns by USAID directly or by leveraging other donor resources and participation.
The strategy will take into consideration existing bilateral and regional USAID programs, other U.S. Government activities and other donor activities to achieve complementarity where appropriate and avoid unnecessary duplication. Some of the U.S. government institutions already working in the region on environmental concerns include the National Oceanographic and Atmospheric Administration (NOAA), Department of Energy (DOE), Department of State, Department of Agriculture (USDA), and the Environmental Protection Agency (EPA). In addition, the strategy will identify specific areas which have strong potential for collaboration with and/or co-financing by other donors, international agencies, the private sector and other groups (i.e. U.S. scientific and academic institutions).

The strategy document will (1) include an assessment of key environmental issues of regional or subregional importance for the target countries, and clarify the priorities expressed by key Caribbean institutions; (2) make specific recommendations on the direction which USAID/Jamaica's Regional Caribbean Environmental Program shall take;

and (3) suggest prioritized interventions for USAID/Jamaica/CRP and other U.S. Government organizations which will contribute to the achievement of U.S. foreign policy objectives, especially those that address the environment and sustainable development.

A. Geographic Coverage

The geographic focus of the Strategy is the CARICOM and Associate CARICOM countries, plus Haiti and the Dominican Republic. CARICOM member countries include Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. Associate CARICOM members include the British Virgin Islands and the Turks and Caicos Islands. Although the geographic region for consideration under this strategy includes all of the above mentioned countries, the nature or extent of proposed interventions in specific countries will vary according to the countries' level of development, the presence or absence of other USG and other bilateral and regional programs, available resources, and other strategic considerations. Potential linkages to USAID environmental programs in Mexico and Central American countries will also be explored. While some Caribbean countries are excluded among those noted above, it may still be important to include their participation in some areas.

B. Conceptual Thrust

The primary concern of the Strategy shall be the well-being of the human population of the region, with a particular focus on the more vulnerable parts of the society. The conceptual thrust focuses on the fact that human beings are core elements of the ecosystems and natural resources upon which they rely for sustenance and survival. So while it may be valuable for example to fully protect a forest in a given watershed, or prevent fishing in a particular coastal area, the design of an environmental strategy would be significantly incomplete without having defined concrete alternatives for communities that had once relied on these resource areas for sustenance or livelihood.

The Strategy will also need to address the crucial area of policy development, implementation and enforcement as concerns the sound use of environmental and natural resources on a sustained basis in the Caribbean. The implementation of appropriate policy frameworks and economic incentive packages will be an essential complements to the identification and implementation of appropriate physical technologies for environmentally sound development on a sustained basis.

C. Thematic Areas

Several major regional institutions in the Caribbean have adopted and are promoting Integrated Natural Resource Management as the unifying framework for carrying out all environmental and natural resource work in the region. The integrated approach is deemed necessary to ensure optimal decision-making concerning the many and complex facets of the natural and human environment.

In this context, the thematic areas listed below shall be used as a preliminary framework within which the team will identify strategic options and initiatives which respond to subregional and regional development priorities, advance key USG foreign policy objectives for the region and reflect USAID's comparative advantage vis-a-vis other international donors and organizations, within the parameters of USAID likely funding levels.

Attention shall also be given to the potential roles of environmental policy, environmental education and outreach initiatives as catalysts for action under each thematic area. Where relevant, the strategy shall also indicate targets of opportunity for initiatives to be addressed in other technical areas. These thematic areas will also inform the consultations, site visits and strategy development. The order listed below does not indicate a predetermined prioritization.

1. Biodiversity Conservation/Ecosystem Management (coastal/marine and terrestrial)

2. Sustainable Tourism

- **environmental impact of tourism related capital infrastructure investments (roads, airports, seaports, hotels/resorts, marinas, and support facilities such as water, energy, and sanitation)**
- **"greening" of tourism sector (hotels, transport, other enterprises)**
- **addressing land-based pollution (urban, agriculture, industrial) to the extent it significantly impacts on the health of coastal marine ecosystems which are the foundation for most tourism**
- **environmental issues related to diversifying tourism to expand opportunities for eco-adventure and cultural tourism**

3. Economic & Social Development and Sustainable Trade

- **environmental implications of key economic development sectors (other than tourism), examining both the national impacts and the impact on trading partners**
- **considerations for different geographical grouping of countries within the Caribbean (i.e., Eastern Caribbean states ; Surinam and Guyana)**
- **importance of sound natural resource utilization and environmental protection to the region's sustainable development**
- **costs to the society (who benefits and who looses)**
- **environmental accounting, internalizing environmental costs in prices**

4. Integrated Water Resources Management

- **Urban Environmental Services (potable water, solid waste management, wastewater management)**
- **Watershed Management and Protection**
- **Stormwater Management Systems**
- **Water Use Efficiency, Reuse, Recycling**
- **Water Quality**

D. Strategy Design Tasks

The Strategy design will require the following tasks: (1) review of background materials; (2) establish and convene an Interagency Strategy Advisory Committee that will guide strategy development; (3) conduct site visits to select environmental programs and key regional/subregional institutions; (4) conduct consultations in the U.S. and the Caribbean with key stakeholders; and (5) prepare the strategy document. The following specific tasks will be completed by the contractor:

(i) **Review relevant background materials including the Mission's current Strategy Plan and Results Review and Resource Request (R4), the Mission's Environmental Strategy for its bilateral program and related project papers, the Strategy Plans and R4s for other USAID Missions in the region, the "Summary Report on Caribbean Environmental Priorities, Agreements, Activities Underway and Institutional Roles" (which was prepared specifically as background for this Strategy exercise) and other documents as identified.**

(ii) **Establish an Interagency Strategy Advisory Committee which will provide feedback on the strategy workplan, review the draft and the final strategy reports and provide technical and policy guidance on the recommended interventions to be pursued by USAID. The Advisory Committee will be chaired by a designated staff member of USAID. Its members will include representatives of the Caribbean Development Bank; the CARICOM Sustainable Development Unit; the Caribbean Environment Program of UNEP's Regional Coordinating Unit; the Natural Resource Management Unit of the Organization of Eastern Caribbean States (OECS-NRMU); and the Caribbean Conservation Association (CCA). Other organizations may be incorporated as necessary.**

(iii) **Conduct site visits to meet with key representatives of various environmental organizations, including representatives from technical and policy institutions which deal with environmental issues in the region, to discuss the issues outlined in the following section on Strategy Preparation Issues. These site visits will give the team an opportunity to observe the environmental conditions in the region, as well as interventions already underway, and determine the interest of these organizations in participating in the strategy development activities.**

(iv) **Review lessons learned which can provide guidance for developing the strategic focus. The team will identify best practices from successful environmental projects and initiatives which have potential for replication as elements/interventions to be included in the CRP environmental Results Package. This information shall include a**

review of case studies, written in the past three years, which have focused on particularly effective interventions in the priority technical environmental areas of the Strategy Framework.

(v) Conduct consultations in Washington with various donors/lenders such as the World Bank; LAC/RSD and USG agencies such as the State Department, NOAA, USEPA, Department of the Interior, the US Forest Service and the US Department of Energy to identify specific environmental issues which have strong potential for collaboration and/or co-financing.

(vi) Conduct Technical Consultations (TCs) in the Caribbean with representatives from key national and regional institutions to review proposed strategy recommendations and to reach consensus on feasible opportunities for USAID interventions over the next five years. This activity shall be conducted after Task 3 has been completed.

Two one-day TCs are proposed targeting (1) the OECS member countries, Barbados, Trinidad, Surinam and Guyana and (2) other CARICOM member countries, the Dominican Republic and Haiti. Topics to be discussed shall reflect the thematic areas outlined above in Section IV(C). The target audience will include approximately 20 selected technical experts from regional policy and technical institutions from the region as mentioned above.

(vii) Prepare the Strategy Document consistent with the outline indicated in Section J. Report Format.

E. Strategy Issues

In developing the strategy, the contractor shall consider issues which are integral to the preparation of the strategy, such as:

(i) What are the regional and subregional environmental priorities and how do these relate to sustainable development in the Caribbean and to USG foreign policy for the region? What actions are currently underway to address these priorities and what are the constraints to remedial action?

(ii) How does USG foreign policy and USAID development objectives for the Caribbean support improved environmental management in the region?

(iii) In light of the significant resource levels for environmental programs by other donors and international organizations active in the region,

what is USAID's comparative advantage in addressing these environmental priorities?

(iv) **What opportunities exist for USAID support given its expected resource levels, programs undertaken or planned by donors, international/regional organizations and other USG agencies? In particular, what are the possible interventions in the areas of regional policy reform and coordination, regional institutional and human resource development, regional environmental awareness and education, regional research, pilot/demonstration activities to identify replicable approaches, environmental monitoring, and donor coordination?**

(v) **How will the proposed strategy, policies and actions impact on poverty reduction, particularly in those communities where practices significantly degrade the natural environment? What kind of approaches can be taken at the local level to facilitate alternative sources of livelihood for beneficiaries from low income communities, which will also reduce these negative environmental impacts e.g income generating and other micro-enterprise development activities?**

(vi) **Examine the social and economic causes of environmental degradation. What are the impacts of environmental degradation on the diverse socio-economic groups and on economic performance? How can gender considerations best be addressed?**

(vii) **How will current development practices and trends impact on the social and environmental resources of the region? What might be the long run implications given the current institutional capacity for environmental management and sustainable development for the region? How will the proposed strategy and interventions address these concerns?**

(viii) **In recognition of the crosscutting environmental management issues for each of the development sectors in the region, what policies shall CARICOM and the Caribbean Development Bank promote to support sustainable environmental management?**

(ix) **How are economic instruments such as tax incentives, environmental funds and other economic tools to promote the "polluter pays" principle being applied in the region to address environmental concerns? What recommendations are proposed to strengthen and/or establish these instruments?**

(x) **In recognition of the fact that environmental quality and natural resources are fundamental to economic growth and development in the region (especially in tourism, agriculture and fisheries), how can natural resource accounting be applied to ensure better**

environmental management whilst pursuing economic development priorities?

(xi) What are the existing sources of baseline data on environmental conditions in the region and how can these information databases be strengthened to help inform environmental management priorities, policies and actions proposed by decision-makers?

(xii) What are the recommended strategies for engaging civil society (including NGOs, CBOs and the private sector) as key lobbyists for policy and investment change and as key implementors for discrete programs?

(xiii) In view of the significant differences that exist within the CARICOM countries, to what extent shall select issues be advanced through strategic subregional interventions (i.e., forestry and mining for Guyana and Surinam; trans-boundary environmental management in Haiti and the Dominican Republic)?

(xiv) In the context of current environmental priorities and programs of bilateral USAID missions in the Caribbean, what are the areas for regional programming that could provide maximum value-added through complementary interventions, collaboration and improved linkages?

(xv) What is the adequacy of existing institutions responsible for regional environmental policy creation and provide specific recommendations on mechanisms to enhance regional environmental collaboration and needs to strengthen institutional capacity. Is there a need for a multi-donor supported organizational structure similar to the Central American Commission for Environment and Development (CCAD) for the Caribbean?

(xvi) Which key regional institutions and organizations shall be involved in implementing the proposed program, including the nature and extent of their potential involvement, based on the teams assessment on institutional capability?

(xvii) Provide recommendations on how the U.S. private sector can most effectively be engaged to promote "green" investments, the transfer of improved technologies and U.S. know-how, and other forms of environmental improvement. For example, shall interventions such as small trade/business grants through the National Association of State Development Agency (NASDA) be considered to promote the adoption of sound environmental technologies (energy and water use efficiency, wastewater treatment, pollution prevention, water quality)

in connection with sustainable tourism or integrated water resources management? How can the U.S. travel/tourism industry become a stronger partner in co-financing and/or implementing the proposed program?

(xviii) Provide recommendations on how to effectively engage other U.S. organizations (universities, research institutions) and other USG organizations (DOE, DOI, EPA, NOAA, State, USDA, USDA/USFS) in implementation of the proposed program.

(xix) In keeping with the proposed thematic areas of the strategy provide illustrative possibilities for areas of intervention such as:

- **Regional Policy Development and Investment Coordination**
- **Human Resource Development and Institutional/Organizational Strengthening to strengthen capacity for policy analysis, research, training, field-level interventions, and impact monitoring**
- **Targeted Field Level Pilot and Demonstration Programs (i.e., parks protection, "greenling" of hotels, urban sanitation, watershed protection, industrial clean production)**
- **Information Dissemination/Networking/Field Study Tours to share best practices in environmental management, policies, incentive structures, and sustainable development approaches (engaging civil society, sustainable financing, innovative partnerships between government, NGOs, private sector)**
- **Enhancing Environmental Awareness and Education by Caribbean and external policy-makers, investors, and other key stakeholders, thereby increasing their commitment to take necessary actions**

(xx) Identify opportunities and provide recommendations for collaboration and linkages with USAID programs such as the Caribbean Economic Diversification Program, the Central American regional environmental program (PROARCA) and environmental programs in Mexico.

(xxi) Provide recommendations for possible linkages to address climate change and disaster preparedness/mitigation issues which impact on environmental management in the Caribbean.

(xxii) Provide recommendations for collaboration, including the potential for co-financing of specific initiatives and linkages with other donor and international organization programs.

(xxiii) In view of the nature and magnitude of proposed interventions and considering the recommended implementation mechanisms (i.e., USAID/Jamaica managed activities; activities supported and managed under USAID/LAC/RSD--such as Hemispheric Free Trade Expansion or Parks in Peril) provide recommendations on management and technical support needs (USPSC only) for USAID/Jamaica to effectively implement the regional environmental program.

F. Team Composition/Qualifications

The Contractor will assemble a qualified team which will provide expertise in the technical areas indicated below. The team will work closely with USAID personnel from the USAID/Jamaica Mission, the LAC Bureau and G/ENV. USAID/W will provide a Natural Resource Management Specialist and a Climate Change Specialist to work with the team at no cost to the team. For all team members, previous work experience in the Caribbean or other archipelagoes is strongly desired. At least three members of the team shall be Caribbean nationals. The Team Leader for the Strategy Design will continue as Team Leader during the Results Package Design. An illustrative team, consisting of specialists from the Caribbean and U.S., along with USAID technical officers, might include the following specialist positions:

Environmental Policy and Planning Specialist/Team Leader**: This individual must be a senior environmental and natural resources policy specialist with at least 15 years of experience in the design and implementation of development projects with experience in natural resource management and/or environmental economics, and preferable work experience in the Caribbean or other archipelagoes. The strong preference is for the candidate to have a Doctoral degree in environmental economics, natural resource management or environmental planning, unless supplementary training and experience indicate equivalent Doctoral level expertise. The candidate must at least have a Masters degree in the referenced environmental areas. This individual shall have a broad understanding of the relationship between integrated natural resource management issues, economic development and social impacts. In addition, the candidate shall have knowledge of the institutional development needs to facilitate application of environmental policies and laws. He/she shall have a sound knowledge of USAID regulations and procedures pertaining to activity design/implementation and substantial experience in leading consultant teams. He/she must have excellent leadership and interpersonal skills. The team leader must be available to work in the Caribbean for at least four weeks. He/she will have ultimate responsibility for preparation of a final strategy paper acceptable to USAID.**

Marine Biologist**: This individual shall have a graduate degree in marine biology, and at least 12 years of technical experience developing and implementing activities in marine and coastal ecology, coastal zone management, and marine protected area**

management, with preferable work experience in the Caribbean or other archipelagoes. The candidate shall have relevant experience in the implementation of integrated natural resource management activities in developing countries, especially small island ecosystems.

Urban Environmental Management Specialist**: The candidate shall have a graduate degree in urban development with at least 12 years experience implementing activities in urban environmental policy, physical planning, the social impacts of environmental health, urban sanitation and industrial pollution prevention. The individual shall have a clear understanding of integrated coastal resource management and shall have experience working in the Caribbean or other archipelagoes.**

Sustainable Tourism Specialist**: The candidate shall have a graduate degree in tourism management, with specialization in economics and sustainable development. The individual shall have at least 10 years experience working on sustainable tourism policies and guidelines, sensitizing tourism industry leaders on environmental issues, developing initiatives for environmentally sound expansion of eco-adventure/culture tourism and implementing environmental management programs for the tourism sector. The individual shall also have a clear understanding of integrated coastal resource management and shall have experience working in the Caribbean or other archipelagoes.**

Social Scientist/Social Ecologist**: The candidate shall have at least a Masters degree, in anthropology or sociology, and at least 12 years experience designing and implementing development strategies and programs focused on environmental management and community development-related activities. This experience shall include preparation state-of-the-art methodologies to measure the impact of real or potential environmental conditions, trends and developments on diverse social groupings. The candidate shall also possess enough economic skills and knowledge to assist the team leader or economist in translating these impacts into economic terms. Similarly, this candidate shall be knowledgeable enough about the fields of the natural resource and environmental team members, to develop an effective framework for monitoring the bi-directional impacts of social and environmental conditions and change. The individual shall have experience working in the Caribbean or other archipelagoes. This knowledge would be applied to shaping a strategy that is socially sound and fair as concerns the diversity of social groupings in the region.**

Ecological/Environmental Economist**: The candidate shall have preferably a Doctorate, and at least a masters in ecological economics, environmental economics or natural resource economics, with at least 12 years of applied experience in these areas. The candidate shall be versed in all of the state of the art methodologies in the areas, and be familiar with the institutional requirements for undertaking environmental accounting and developing and implementing economic policy incentives and price incentives for achieving ecological sustainability. This person**

shall have significant familiarity with and experience in Caribbean economies, and the capacity to work well with a broad diversity of technical experts.

Management Specialist**: This individual will be responsible for oversight and overall management concerns in support of the Team Leader and completion of the strategy document. This individual will work with the team to develop the work program and to ensure that deliverables are completed on schedule.**

Workshop/Conference Facilitator**: This individual will be responsible for coordinating all logistical arrangements for the regional consultations and will support the Team Leader where necessary to ensure the successful completion of these consultations. If necessary this individual will also assist with preparations for site visits to be conducted by the team throughout the region.**

G. Level of Effort

It is estimated that the Strategy design will require the following level of effort:

POSITION	NO. OF WORK DAYS
Environmental Policy and Planning Specialist	36
Marine Biologist	24
Urban Environmental Management Specialist	24
Sustainable Tourism Specialist	18
Social Scientist/Social Ecologist	12
Environmental Economist	18
Management Specialist	3
Workshop/Conference Facilitator	3

H. Roles and Responsibilities

USAID/Jamaica Caribbean Regional Program (CRP) is the technical office responsible for overall coordination of the Regional Environmental Strategy. The Contractor shall report to the CRP Team Leader and shall be under the technical guidance of the Regional Environmental Advisor who will serve as USAID's principal point of contact on all matters relating to this effort. The Contractor will meet with representatives of the USAID/Jamaica CRP and the Office of Program & Project Development on the first day of work for a briefing session and will present a workplan to USAID for approval two days later. Thereafter, the Strategy Team Leader will liaise regularly (not less than twice per week) with the designated USAID/Jamaica staff on progress made and directions being pursued.

Role of USAID Technical Officers

LAC/RSD will provide a Natural Resources Management Specialist and a Climate Change Specialist who will serve as part of the Strategy Team, at no cost to the team.

I. Deliverables

1. **Team workplan for the completion of the Caribbean Regional Environmental Strategy within three days of the team's arrival.**

2. **Briefing paper for the Technical Consultations.**

3. **Report based on the Technical Consultations, providing an analytical overview of the proposed priority actions and recommended opportunities for USAID intervention.**

4. **Draft Strategy report on IBM formatted 3.5 inch electronic diskette/s in WordPerfect version 5.1/5.2 format for Windows and 10 bound copies for USAID/Jamaica shall be delivered within seven weeks of the team's arrival in the Caribbean. In addition 5 bound copies of the Draft report shall be submitted to USAID/LAC/RSD/E.**

5. **Presentation to USAID/Jamaica and a select group of counterparts on the findings and recommendations of the Draft Strategy.**

6. **Final Strategy report on IBM formatted 3.5 inch electronic diskette/s in WordPerfect version 5.1/5.2 format for Windows and 15 bound copies for USAID/Jamaica shall be delivered within 11 weeks of the team's arrival in the Caribbean. In addition 5 bound copies of the Final report shall be submitted to USAID/LAC/RSD/E.**

7. **Presentation of the Final Strategy to USAID/Jamaica and other AID representatives within one week of the respective report's distribution.**

J. Report Format

Per ADS Series 200, Chapter 201, Managing for Results: Strategic Planning, the strategy shall include the information necessary to secure endorsement by Agency management on the proposed strategic objectives and targeted magnitude of impact; associated resource requirements; and, requested delegations of authority. Operating units must ensure that any special legislative requirements, as applied to strategic planning, are included. Operating units are not required to follow the outline below in its exact form; however, strategies shall include the following three sections and shall provide a clear and concise discussion of the below referenced issues in a form which is appropriate to their program.

PART I: Summary Analysis of Assistance Environment and Rationale for Focusing Assistance in Particular Areas.

1. **U.S. Foreign Policy: Relationship of the program to US foreign policy interests.**

2. **Overview: The strategy shall provide an overview of the regional condition, including a summary of overall macroeconomic and socio-political trends, a**

discussion of development constraints and opportunities, the role of other donors and a discussion of relevant transnational trends.

3. Customers: A brief discussion of how customers influenced the strategic plan both directly and indirectly using the customer service plan as a basis.

PART II: Proposed Strategic Plan (Regional):

4. A discussion of the linkage of the strategy to Agency goals and objectives.

5. A discussion of the links of the strategy and regional goals and subgoals (where applicable).

6. Each Strategic Objective must include the following:

a. A statement of the strategic objective.

b. A problem analysis of the specific problem to be addressed and an identification of affected customers.

c. A discussion of critical assumptions and causal relationships which are represented in the Results Framework.

d. The commitment and capacity of other development partners in achieving the objective. This may include a trend analysis which demonstrates why the current climate and support by other partners (including the host country government) or customers indicates that the objective can be achieved.

e. Illustrative approaches.

f. How sustainability will be achieved.

g. How the achievement of the strategic objective will be judged including;

i. Proposed performance indicators and targets for achievement of each strategic objective as well as monitoring interim progress.

ii. Performance targets which convey an understanding of the anticipated magnitude of change vis a vis USAID's investment and/or that of USAID's partners. These performance targets will represent anticipated results over the entire strategy period to the extent possible (i.e., where past experience and

technical knowledge indicate that targets which are projected to the end date of the strategy are useful and meaningful).

There are some cases, most often in new areas, where select targets may be shorter than the planning period and therefore will need to be updated via the Results Review Resource Request (R4) process. Also, interim performance targets may be used as part of performance monitoring during the life of the objective.

PART III: Resource Requirements

1. Estimated resource requirements over the planning period to achieve the strategic objectives, including program dollars as well as supportive operating expenses and personnel. Program funding shall include the amount for field support provided through G/Bureau mechanisms. The operating unit shall also identify any USAID/W technical or other support which are necessary to accomplish the strategic objectives.

2. Discussion of programming options. This shall be brief and concise and may take the form of a simple matrix which serves to articulate and distill the priorities of the operating unit indicating high, medium, and low funding levels. Such a matrix shall take into account Congressional and Administration mandates and may indicate country conditions that will warrant increases or decreases in assistance.

K. Draft Strategy review

1. Copies of the draft Strategy Report will be distributed to the Mission, G/ENV, LAC/RSD, LAC/SPM and key counterparts for review and comment 3 days prior to the Team Leader's departure from Jamaica. The body of the report should be no more than 40 pages long. Prior to the TL's departure, he/she will present the team's findings and recommendations. This session will also involve USAID representatives from LAC/RSD and Global Environment where possible. The strategy shall then be revised to incorporate comments as appropriate.

2. The Contractor will also circulate the Draft Strategy to key institutions and regional experts for written feedback and comments. If necessary USAID/Jamaica and the contractor will meet with key organizations throughout the region to discuss any major concerns raised in their feedback.

L. Logistical Support

The Contractor is expected to provide all administrative and logistical support for its core team members to work effectively in the region.

M. Proposed Schedule

Week 1	**The contractor will conduct interviews and meetings in Washington with relevant USG agencies and international donors on their regional environmental programs**
Week 2	**The contractor shall meet with representatives of USAID/Jamaica CRP and the Office of Program & Project Development on the first day of work for a briefing session and will present a workplan to USAID for approval within three days of arriving in-country. Thereafter, the Strategy Team Leader will liaise regularly (not less than twice per week) with the designated USAID/Jamaica staff on progress made and directions being pursued. The contractor will use the first week to read background materials and arrange upcoming site visits.**
Weeks 3-4	**Site visits, interviews and meetings with key regional and subregional organizations and donors;**
Weeks 5-6	**Technical Consultations;**
Week 7-8	**Completion of draft strategy report;**
Week 9	**Submission of draft strategy report to USAID/Jamaica, AID/W and partners, and presentation to USAID/Jamaica and select group;**
Week 10	**Feedback from counterparts**
Week 11	**Revision and presentation of final strategy to USAID/Jamaica**

N. Logistical Support

The Contractors will be responsible for all arrangements for transportation, lodging, secretarial and office space.

Annex B: List of Institutions and Individuals Contacted

Association of American States
Miguel Ceara-Hutton, Executive Director

Barbados Coastal Conservation Unit
Leo Brewster, Marine Biologist

Barbados Hotel and Tourism Association
Senator Noel Lynch, Executive Vice-President
Gill Whitley, Chair, Environment Committee & Environmental Manager, Casuarina Hotel, Barbados

Barbados Tourism Authority
Michael Scantlebury, Vice President for Marketing and Sales

Bellair Research Institute/Barbados
Wayne Hunte, Director

Caribbean Development Bank
Jean A. Bell, Project Officer (Tourism)
Clairvair O. Squires, Chief Project Officer (Poverty Reduction & Environment)

Caribbean Disaster Emergency Response Agency
Andria Livingston,

Caribbean Conservation Association
Glenda Medina, Executive Director

Caribbean Ecotourism Support Network
Joy Douglas, Coordinator

Caribbean Environment and Development Institute
Carmen Guerreo,

Caribbean Environmental Health Institute
Vincent Sweeney, Executive Director

Caribbean Environmental Reporters Network
Terry Ally, Barbados Representative

Caribbean Fisheries Resource Assessment & Management Program
Boris Fabres, Executive Director

Caribbean Hotel Association
John Bell, Executive Vice-President
Kelly Robinson, Director, Caribbean Action for Sustainable Tourism

Caribbean Natural Resources Institute
Yves Renard, Executive Director

Caribbean Tourism Organization
Mercedes Silva, Sustainable Tourism Development Officer
Luther Gordon Miller, Director of Finance and Resource Management

CARICOM
Mustafa Toure, Head of Sustainable Development Unit
Herman Rohlehr, Program Manager
John Browman, Agriculture Advisor
Shamina Maccum-Barrow, Agriculture Project Officer

Neville Trotz, Head, Program for Adaptation to Climate Change

Consortium of Caribbean Universities for Natural Resources Management
Alida Ortiz, Coordinator

Donors

Canadian High Commission/Canadian International Development Agency
Deborah Riven Ramsay, Development Officer (Environment), Barbados
Gilles Bouchard, Counsellor (Development), Barbados
Charles Boode, Development Officer, Guyana
Anna Iles, Program Officer, Guyana

European Union
Ruth S. Houliston, Associate Economic Advisor, Barbados
Maria-Joao Ralha , Economic Advisor, Guyana
Philippa Haden, Consultant, Guyana

Gesellschaft fur Technische Zusammenarbeit (Germany)
Ben J.H. ter Welle, NRMP Team Leader, Guyana

Inter-American Development Bank
Edward Farnworth, Environmental Advisor, Caribbean Region
Charles Greenwood, Representative, Guyana

UK Department for International Development
Richard W. Beales, Senior Natural Resources & Environment Advisor

UN Development Program
Carol James, Senior Sustainable Development Advisor
Andrea Tamagnini, Deputy Resident Representative, Guyana

UN Economic Commission for Latin America and the Caribbean
Eric Blommestein, Environmental Officer
Arthur Gray, Economics Officer
Lance Busby, Statistics & Data Base Development Officer

UN Environment Program
Nelson Andrade, Director
Monica Borobia, Program Officer
Tim Kasten, Program Officer
Ken Korporal, CEPNET

UN Food & Agriculture Organization
Don Robinson, Representative, Trinidad and Tobago, Guyana, and Suriname

USAID

USAID/Jamaica and Caribbean Regional Program

Howard Batson, Project Officer
Jennifer Worrell Campbell, OFDA Representative
Vernita Fort, Mission Economist
Mosina Jordan, Director
Joanne Feldman-Lawrence, Project Officer, Office of Program & Project Development
Nicole Pitter-Patterson, Regional Environmental Advisor and Manager, Caribbean Environmental Network (CEN) Project
Peter Weisel, SO2 (Environment) Team Leader,

USAID/Haiti
George Deikun, Deputy Director
Melissa Knight, Project Officer
J.D. Zack Lea, ServiCoop
Pierre Cam Milfort, Project Officer
Ed Scott, Chief of Party, ASSET Project

USAID/Dominican Republic
Ed Kadune, Director
Ted Gehr, Project Development Specialist
Richard Mangueli, Project Manager
Henry Welhous, Project Development Specialist

USAID/Guyana
Carol Becker, Director

World Bank
Maria Donoso Clark, Sector Leader for the Caribbean
Sam Wedderburn, Regional Natural Resources Management Specialist, Jamaica Resident Mission
Errol Graham, Economist, Jamaica Resident Mission

Guyana Geology and Mines Commission
Brian Sucré, Commissioner

Guyana Office of the President
Navin Chanderpaul, Advisor to the President on Environment

Guyanese Organisation of Indigenous Peoples
George Norton, National Chief
Colin Klavtky, Program Officer
Christine Lowe, Secretary

Jamaica Natural Resources Conservation Authority
Franklin McDonald, Executive Director

Jamaica Hotel and Tourism Association

James Samuels, President, JHTA and Managing Director, Terra Nova Hotel

Insurance Association of the Caribbean
Alister Campbell, Executive Director

Organisation of Eastern Caribbean States
Vasantha Chase, Head of Natural Resources Management Unit
Peter Norville, Project Officer, OECS Waste Management Project

Pan American Health Organisation
Harry Philippeaux, Program Officer

St. Lucia Solid Waste Management Authority
Alison King-Joseph, General Manager

University of Guyana
James Singh, Manager, Center for Biodiversity

University of the West Indies (Barbados)
Ralph Carnegie, Director, Caribbean Law Institute
Winston Anderson, Faculty of Law

University of the West Indies (Mona)
Anthony Clayton, Professor, Center for Environment & Development
Jeremy Woodley, Director, Center for Marine Sciences

University of the West Indies (Trinidad)
Dennis Pantin, Coordinator, Sustainable Economic Development Unit for Small and Island Developing States
Taimon Stewart, Dept. of Economics
Arun Waugh, Director, Institute for Marine Affairs

Others
Moises Alvarez, ONAPLAN, Capacidad 21, Dominican Republic
Stephen Banks, Vice Consul, US Embassy, Guyana
Leonie Barnaby, Ministry of Environment & Housing, Jamaica
Bradley Brown, Director, Southeast Fisheries Science Center, National Oceanographic & Atmospheric Administration, and President, IOCARIBE
David Cassells, Director General, IWOKRAMA, Guyana
Jehova Pena Coinielle, Manager, Renewable Energy (REGAE), Dominican Republic
Crispin d'Auvergne, St. Lucia National Coordinator, Environment and Coastal Resources (ENCORE) Project, USAID Caribbean Regional Program
Kate English, Second Secretary, British High Commission, Guyana
Sandy Griffith, Technical Officer, Conservation International/Guyana
Larry Gumbiner, Regional Environmental Officer, US State Department

Environmental Hub for Central America and the Caribbean
Colin Hudson, Facilitator, The Future Centre, Barbados
Jean La Rose, Amerindian Peoples Association, Guyana
James Mack, Ambassador, US Embassy, Guyana
Magdalena Nuney, Engineer, Water Authority (INAPA), Dominican Republic
Conrad Ornstein, Chief of Party, Development of Environmental Management Organizations (DEMO) Project, USAID/Jamaica
Sheila Peters, Deputy Chief of Mission, US Embassy, Guyana
Susan Renton-Singh, Biological Research Officer, St. Vincent
Jean Robinson, Executive Director, ICWI Foundation, Jamaica
Gladys Rosado, SEA/CEN Project, Dominican Republic
A.C. Small, Sanitary Engineer, Sandals La Toc Resort, St. Lucia
David A.Y. Smith, Managing Director, Smith Warner International, Jamaica
Hans ter Steege, Forest Ecologist, Tropenbos Foundation, Guyana
Jan Voordouw, Coordinator, Regional Information Partnerships, PANOS Institute, Haiti
Neville Waldron, Director, Conservation International/Guyana
Kai Wulf, Manager, Soufriere Marine Management Area, St. Lucia

Washington, D.C. Meetings (August 17-21, 1998)

World Bank
Phil Hazelton, Guyana
Maria Donoso-Clarke, Environment and Sustainable Development

Inter-American Development Bank
Maria Claudia Perazza, Guyana
John Horton

World Wildlife Fund
Meg Symington

Conservation International
Lisa Famolare
Ian Bowles

Island Resources Foundation
Ed Towle

World Resources Institute
Lauretta Burke
Dan Tustall
Marta Miranda

Organization of American States
Jan Vermeiran
Kristie Jorge

Office of U.S. Trade Representative
Mary Barnicle
Laura Anderson

U.S. Environmental Protection Agency
Paulo Almeida

U.S. Forest Service
Scott Lampman

National Oceanographic and Atmospheric Agency
Jacqueline Rousseau

U.S. Department of State
Chris English
Ted Craig
Kathleen Lang

U.S. Agency for International Development

Dan Deely
Robert Burke
John McMahon
Ko Barrett
Barbara Best
Robert Boncy

Annex C : Economic Sustainability Orientation Elaborated

Two key variables in the decision-making process (on how to allocate scarce natural resources among alternative and competing ends) are employment and foreign exchange earnings. Where unemployment is high and foreign exchange earnings are low, the propensity to exploit a geographical area for minerals[2] (for example) will, more often than not, be greater than protecting the area to save endemic and threatened flora and fauna species. Protecting threatened species is not an easy sell so long as people are unemployed and natural resources are available for exploitation and subsequent export. Economic arguments must be developed whereby environmental protection of an area at risk competes on a level playing field with the exploitation values of the area. If, based on the results of the comparison, the best and selected economic option is to conserve (or at the extreme—preserve), then safeguarding the threatened endemic species becomes a byproduct—not the main reason for the decision. This, of course, does not negate the need to express the environmental values at risk in strong environmental terms as well. Doing so in economic terms (as described below) will only strengthen the argument that certain natural resources and ecological values merit protection.

The economic argument is twofold:

(1) capitalizing on the existence of threatened and endemic species in the area to create eco-tourism attractions, and

(2) the probable downstream economic impacts associated with the exploitation option.

Under the ecotourism option[3], the (potential) eco-tourism attractions are assured only if the area is protected (or at least not fully exploited for the mineral deposits). The markets for day excursions from cruise ships and hotels are ready-made (or can be developed)—the financial and economic feasibility of creating the attractions and marketing them, and the direct comparison with the exploitation value of the area, are the missing elements. Although conventional wisdom claims that less than five percent of the total amount spent by each tourist for the entire package remains on the sites (which has been documented in many eco-tourism publications), the total revenues generated can actually aggregate to substantial amounts if several geographically dispersed ecotourism field sites in the same region are developed, limited only by the requirement that the tourism carrying capacity is not exceeded in any one area.

The second argument—downstream economic impacts—is probably more powerful. Because the major "sun and surf" tourism destinations in the Caribbean region are

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[2] The Cockpit Country in Jamaica where deposits of bauxite are considerable is a good example.

[3] Eco, nature, sustainable, and managed tourism are all nuanced terms depending on the attractions. The common denominator among them is that different tourism experiences could be offered to an increasingly discriminating tourism clientele.

extremely competitive, they are also vulnerable to any negative news such as political instability, rising crime and bad environmental reports[4]. Any such news would receive high exposure and could very quickly destroy the credibility of areas as tourism destinations. As the major employer and foreign exchange earner for most Caribbean countries, the tourism sector would be wise to assume a much stronger role in working with the Caribbean governments to ensure that the environmental integrity of the tourism destinations is not compromised. This would not be limited to the tourism sites only, but also to any and all upstream activities that contribute to the pollution load. The linkages between distant mining upstream in the watershed, deforestation caused by inefficient charcoal burning, and poor farming practices should be made explicit and couched in economic terms—particularly in terms of foreign exchange earnings and employment.

The logic is simple as illustrated by the three scenarios in Figure 3.1. Under the first scenario, tourism visits are projected to increase over time as depicted by the OA curve beyond the present time to point A (until the maximum carrying capacity has been reached[5]).

This reflects the assumption that the environmental integrity of the area is maintained. The second scenario depicts what may happen if environmental stewardship is not practiced. Exploiting mineral deposits upstream from the tourism destination, for

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[4] Competition is intense not only interregionally, but worldwide. Scarce tourism dollars will be spent in areas that offer the best value for the moneyùthe quality of the environment is probably the most important decision variable for most similarly priced tours.

[5] In many areas the tourism carrying capacity is a function of the physical space along the beaches and/or inland where tourism infrastructure can be erected. The capacity has been reached once there is no more space available. Tourism to the area can then continue to grow only up to a full occupancy rate.

example, may, in addition to all other upstream contributors to the pollution load, tip the scale of tourism visits from positive to negative growth as the bad environmental reports become more frequent. Because of the gradual environmental degradation (perhaps best manifested by the declining quality of the coral reefs—the most important elements for tourism in the Caribbean), the number of visits begin to take a downturn at point B. Other destinations in the region will then increase their market shares if their environmental management practices are superior. The economic impact is defined in terms of employment and foreign exchange losses in the tourism sector by the increasing gap between curves OA and OC over time, or the area ABC.

The 3rd scenario reflects the possible (if not probable) event of a disastrous calamity such as a hurricane or heavy rainfall and subsequent erosion and other pollution problems exacerbated by the cumulative impact of all upstream contributors to environmental degradation in the area. Almost overnight, tourism to the area may abruptly end as indicated by curve OBD in Figure 3.1, again translated into employment and foreign exchange terms. A protected area would be in a much better shape to withstand the impacts of calamitous events such as hurricanes and the like, and the subsequent impact on tourism would be much less severe.

Depicting the impacts of the failure to safeguard the environmental integrity of areas at risk in this fashion is a much stronger political (and economic) argument. Politicians are always under considerable pressure to generate employment for their constituents and foreign exchange earnings to increase the economic welfare in their districts. The creation of foreign exchange earnings and 1,000 jobs in an upstream mining industry is a relatively easy sell, particularly if the only countervailing argument is the danger this would pose to certain endemic flora and fauna species in the same area. If it were possible to bolster the latter argument with a projected loss of 1,500 jobs in the downstream tourism sector, including corresponding losses in foreign exchange earnings as a result of the environmental degradation, however, the environment would gain considerably in political clout.

Annex D: Technical Notes

1. Summary of Land-Based Sources of Marine Pollution. **Source: UNEP, "Regional Overview of Land-Based Sources of Pollution in the Wider Caribbean Basin", Caribbean Environmental Programme Technical Report No. 33, 1994.**

SEWAGE
--growth of resident populations and tourist visitations are leading to increased amounts of poorly treated or untreated sewage being discharged into the coastal marine environment
--potential for human health problems via primary contact and by consumption of contaminated seafood is high
--hotels and other facilities are being built in locations lacking adequate municipal sewage systems or lack good operating treatment plants with resultant damage to coastal ecosystems
OIL HYDROCARBONS
--oil shipping spills, oil discharges and leaks can and do occur in the region
--damage to coastal ecosystems and species from massive spills can be severe and is well documented
--ecological and health risks caused by chronic oil discharges into coastal marine environments of the Wider Caribbean Region (WCR) is not well documented
SEDIMENTS
--most of the sediment load results from natural geochemical processes. These are enhanced by human activities such as deforestation, urbanization, agricultural practices and other pollutants entering the water
--economic growth pressures have led to expansion of agricultural activities into forest lands
--data on the negative impacts of land use changes and resulting situation and agrochemical runoff on coastal ecosystems is insufficient to assess the magnitude of adverse effects
--mining operations also add to sediment loads, but specific volumes reaching coastal ecosystems have not been determined
NUTRIENTS
--discharge of nutrients into enclosed coastal areas is a major cause of eutrophication, leading to algal blooms, changes in aquatic community structure, decreased biological diversity, fish kills and oxygen depletion
--contributing to nutrient loads are agricultural fertilizer runoff and untreated sewage
--economic impacts include diminished fisheries and destruction of recreational, ecological, and aesthetic appeal to tourism.
PESTICIDES
--erosion, runoff, and misapplication/disposal of pesticides allow significant quantities of these products to reach coastal environments
--precise data on the levels and types of toxic compounds accumulating in the Caribbean Sea basin is very limited
--changes are evident in the types of pesticides being used (trend toward less persistent compounds), but little is known about the impacts these have within tropical marine environments.

SOLID WASTE AND MARINE DEBRIS

--increasing amounts of solid wastes are being generated but collection and disposal systems are inadequate. Marine dumping is a problem.

--no published data on amount of solid wastes entering marine ecosystems

--aesthetic and health problems result, and also reduce tourism appeal

TOXIC SUBSTANCES

--considerable concern over bioaccumulation of these substances in marine organisms and high toxicity when ingested by humans

--mainly introduced into water ways from industrial point sources, such as petroleum industries, chemical industries, pulp and paper plants, pesticide production plants, metal and electroplating industries

--major industrial development within the region is located in specific "hot spots", including the west coast of Trinidad, Kingston Harbor and Havana Bay

--no hard data exists on the amount of toxic pollutants entering the coastal and marine environment of the WCR]

2. Demographics: **Column 2 in Table 2.1 shows the estimated population in the region as of 1996—a total of some 21.3 million people. Most of the population are school age or eligible for the work force. While this group is entering the higher consumption phase of their lives, the prospects for changed environmental behavior among younger people are better; especially if they understand that unmitigated environmental degradation will eliminate many, if not most of their options. Because of the low public spending for retirement, as indicated in the 4th column, options for retirement income are inextricably linked to the productivity of the natural resource base. As cost-saving techniques and income-earning opportunities associated with environmentally friendly natural resource management approaches are introduced and supported, therefore, younger people will have more flexibility to provide for their own retirement. Finally, the level of illiteracy (column 5) is assumed to be an indicator of the propensity for changed behavior. The more literate the population, the better people will understand the economic implications of not protecting the environment and be more prone to change their behavior. Where the illiteracy rate is high, such as in Haiti, results will be more difficult to obtain.**

Table 2.4: Demographics

Countries	Pop. 1996 ('000)	% Pop. Over 60 Yrs Old	Public Retirement Spending as % of GDP	Adult Illiteracy
Antigua & Barbuda	65	n.a.	n.a.	5.0%
Bahamas	276	6.7%	n.a.	2.0%
Barbados	266	14.8%	3.0%	3.0%
Belize	216	6.4%	1.1%	9.0%
Dominica	73	n.a.	n.a.	6.0%
Dom. Republic	7,800	5.5%	1.0%	18.0%
Grenada	91	n.a.	n.a.	3.0%
Guyana	835	6.4%	1.4%	2.0%
Haiti	7,200	6.2%	n.a.	55.0%
Jamaica	2,500	8.9%	7.0%	15.0%
St Kitts & Nevis	41	n.a.	n.a.	10.0%
St Lucia	158	n.a.	n.a.	10.0%
St Vincent	111	n.a.	n.a.	18.0%
Suriname	410	6.7%	n.a.	7.0%
Trinidad & Tobago	1,300	8.3%	3.4%	2.0%
Total	21,342	n.a.	n.a.	n.a.
Average	n.a.	7.8%	2.8%	11.0%

Source: World Bank, 1998. Wider Caribbean Financial Sector Review.

3. Agriculture

The GDP numbers are deceptive, however, because small island economies are obliged by virtue of their small sizes to depend on only a limited range of industries such as agriculture—the production and export of a few basic commodities (sugar, coffee, bananas, cocoa, and the like), and/or minerals. Depending on such crops for GDP growth is always fraught with risk because the export crops are highly vulnerable to world market price fluctuations and importing country political climates. Sugar exports, for example, are threatened because of decisions taken by the European Union and the US to subsidize their own sugar beet production. The important banana industry in most Caribbean countries is also threatened. Once these crops can no longer be produced profitably, increasing numbers of producers will stop production and large areas will become available for the production of other crops or to be converted to other uses.

The implications for the environment and the GDP with respect to the basic agricultural crops are mixed. Certainly, large monoculture sugar cane and/or banana plantations are not environmentally friendly because of the chemical regimes typically applied (fertilizers and pesticides) in the pursuit of the highest possible yields. Less land allocated to the production of such monoculture crops would reduce the pollution load. The known opportunities to profitably grow other crops on the released areas are few, however. As the Team was told on several occasions, the soils have, over many years, become adapted to the production of the basic crops and are no longer suitable for many other crops. Fairly major investments would have to be made to render these soils adaptable to other crops. An option would be to convert the land to residential lots, or to industrial sites. Such developments, however, often take place with little environmental foresight. Subdivisions

are (often) unplanned with respect to waste water and sewage treatment—the negative environmental impacts are typically severe. Nevertheless, there is a propensity to convert farm land to non-farm uses because such developments will add significantly to the GDP if and when the lots are sold, the housing construction is completed, and/or the industries are operating.

Finally (and probably most important), as the production of basic agricultural commodities declines, the level of unemployment will increase, adding to ranks of the poor. Poverty is often claimed as the most important contributor to environmental degradation, simply because unemployed people have little choice but to avail themselves of "free" natural resources (illegal timber harvesting, charcoal making, fishing, and the like) so long as unemployment compensation is not available. The prospects for increased unemployment in the Caribbean are indeed high, not only in the agricultural sector as production of the large monoculture crops subsides, but also in the public sector. In Jamaica, for example, the announcement has been made that the public payroll will be reduced by 30 percent. For the displaced public sector workers who are well educated, it is probable that alternative employment opportunities will emerge. For the displaced and unskilled farm workers, however, unemployment will likely remain permanent—there are few alternative employment opportunities available.

Regional examples of agriculture's substantial role in generating higher incomes and employment, and in potentially environmentally responsive ways, is in Central America. There, exports of nontraditional crops and products, in particular, are competing in markets with high quality and rigorous environmental standards.

Table 2.5: Real GDP, Percent Rates of Growth

Countries	1990	1991	1992	1993	1994	Avg.	Inflation' 96
Antigua	3.5%	4.4%	1.1%	3.4%	4.2%	3.3%	n.a.
Bahamas	1.3%	-3.1%	0.1%	2.0%	n.a.	0.1%	1.5%
Barbados	-3.8%	-5.4%	-2.9%	2.2%	2.9%	-1.4%	2.4%
Belize	n.a.	6.8%	6.8%	4.2%	2.2%	5.0%	6.4%
Dominica	6.3%	2.3%	2.9%	0.9%	2.2%	2.9%	6.4%
Dominican Republic	-4.8%	0.7%	7.9%	3.0%	4.0%	2.2%	12.5%
Grenada	5.2%	3.6%	1.2%	0.9%	2.5%	2.7%	12.5%
Guyana	-5.3%	6.0%	7.8%	8.3%	8.8%	5.1%	4.5%
Jamaica	4.7%	4.1%	0.8%	1.8%	2.0%	2.7%	21.5%
St.Kitts - Nevis	n.a.	3.9%	3.0%	4.5%	3.2%	3.7%	2.1%
St. Lucia	4.1%	2.3%	7.1%	3.1%	2.2%	3.8%	2.1%
St. Vincent	5.4%	3.1%	4.9%	1.4%	n.a.	3.7%	2.1%
Suriname	0.1%	2.9%	4.3%	-3.0%	-1.0%	0.7%	0.4%
Trinidad & Tobago	1.5%	3.1%	-1.7%	-1.7%	4.0%	1.0%	5.0%

Source: World Bank, 1996, Public Sector Modernization in the Caribbean

4. Infrastructure

Table 2.6: Basic Environmental Infrastructure

Countries	% of Population With Access to Piped Water	Central Sewers	Grid
Antigua	**n.a.**	**n.a.**	**n.a.**
Bahamas	**90.0%**	**15.0%**	**50.0%**
Barbados	**95.0%**	**10.0%**	**98.0%**
Belize	**83.0%**	**24.0%**	**70.0%**
Dominica	**90.0%**	**5.0%**	**93.0%**
Dominican Republic	**n.a.**	**n.a.**	**n.a.**
Grenada	**n.a.**	**n.a.**	**n.a.**
Guyana	**79.0%**	**6.0%**	**40.0%**
Jamaica	**75.0%**	**25.0%**	**47.0%**
St.Kitts-Nevis	**100.0%**	**0.0%**	**97.0%**
St. Lucia	**95.0%**	**8.0%**	**97.0%**
St. Vincent	**n.a.**	**n.a.**	**n.a.**
Suriname	**86.0%**	**17.0%**	**70.0%**
Trinidad & Tobago	**96.0%**	**20.0%**	**97.0%**

Source: World Bank, 1996. Infrastructure for Development, A Policy Agenda for the Caribbean

5. Caribbean Banking System

The World Bank Wider Caribbean Financial Sector Review (1998) characterizes Caribbean local banks as fraught with several problems: *a)* deficient management, *b)* faulty supervision and regulatory framework, *c)* government intervention, and *d)* politically motivated lending. Medium- to long-term lending (seven to 15 years) is almost exclusively for mortgage loans, hence, long-term loans of similar duration through the local banking system are not available to carry out the more costly capital-intensive investments for environmentally friendly infrastructure or equipment. Likewise, on the micro end of

the spectrum, there is little credit available at affordable rates[6] to finance recommended small environmentally-friendly micro enterprises.

Perhaps the most limiting factor constraining the Caribbean financial community from participating in the environmental restoration process is fragmentation—there are few banks and virtually no establishment of branch banks in other countries. Caribbean banks, therefore, typically have high operating costs relative to the values deposited which translates into more costly terms for both borrowers and depositors. They are also vulnerable to failures since investment portfolios are not diversified, unlike US banks who can withstand business failures in their home states because their investment portfolios are spread among activities in many other states. By virtue of their fragmentation, therefore, Caribbean banks cannot spread their risks in a similar fashion.

Given these observations, the Caribbean local banks cannot yet be counted as reliable partners in the environmental restoration process. Until they improve their efficiency and competitiveness, funding for environmental activities—even bankable ones—must necessarily be provided through the donors in the forms of grants and loans, or through other "near-bank" institutions—those with available funding from sources other than depositors[7]. In the near term, however, USAID should, to the extent possible, work with the local banking community and the host country governments for the purpose of reducing the constraints to effective implementation of environmentally friendly and bankable projects and activities.

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[6] The high operating costs and monopoly (at least oligopoly) power of the local banks translate into typically large lending spreads (the difference between saving and lending rates) for small and/or short-term loans (WB 1998).

[7] The Environmental Fund of Jamaica (EFJ) is one such institution created with funding obtained through debt-for-nature swaps. EFJÆs mandate is to provide grant funding for environmentally friendly projects and activities. Although an excellent idea that has proven to work well, it still is not a sustainable solution since the money in the trust fund was not generated internally.

6. Donors

The table below shows activity emphases by selected donors across a range of priority areas identified as related to environmental management and sustainable tourism. The table does not list all donors nor does it show geographic focus or levels of assistance. It is meant to be indicative of the range of donor activity in the region and of the relative interest in and attention to environmental management and sustainable tourism.

TABLE 2.7: Existing and Planned Regional Activity Emphases by Selected Donor

DONOR ACTIVITIES	USAID	UNEP	UNDP	WB	EU	IDB	DFID	CIDA
Watershed Mgmt, Forestry & Agric	X				X	X	X	X
Parks & Protected Areas Management	X	X						
Coastal & Marine Resource Mngmt	X	X			X	X		X
Solid & Liquid Waste Management				X	X	X		
Environmental Health						X	X	
Hotel Env Systems Improvements	X					X		
Environmental Educ & Awareness		X						X
Nature & Cultural Heritage Tourism								
Institutional Strengthening	X	X	X	X	X	X	X	X
Policy & Regulatory Framework	X			X				X
Disaster Mitigation & Preparedness	X						X	
Env Information Systems		X	X					
Econ Valuation of Resources	X			X				

NOTE: The Global Environmental Facility (GEF) is currently implementing an environmental portfolio throughout the region that focusses on biodiversity, climate

change, international waters and ozone depletion. GEF funding is provided on grant terms and all funding requests are submitted for approval through one of the "GEF Implementing Agencies": UNDP, UNEP or the World Bank. GEF funding through these agencies is incorporated in the table above.

Annex E: Strategy Discussions

1. Strengthen Private/Public/CBO Partnerships

This program of activity recognizes that local capacity building must be part of an integrated development effort. It will build local capacity within the context of environmental policy reform and with greater reliance on private sector finance and leadership.

In the initial year of implementation the SITE program might identify 4-6 regionally significant tourism destination areas that both *a)* make an important contribution to a nation's economic base and *b)* are undergoing or expected to undergo environmental stress to an extent that the national economy may be impacted, area tourism may experience a decline or environmental resources of national significance may be threatened. Selection of tourism areas for initial attention would be made on a competitive basis. Criteria for selection might include areas where:

- **(i) critical environmental issues are beginning to be addressed by local groups and there is a presence of demonstrated local initiative;**
- **(ii) formation of partnerships of private sector entities, CBOs and local governments have promise;**
- **(iii) there is a presence of disadvantaged groups (including small-scale farmers, charcoal producers, fishers, youth, etc.) who may benefit from environmental improvement activities;**
- **(iv) present and future investment in tourism activities are inextricably linked to the environmental quality of the tourism destination area;**
- **(v) USAID funds can be leveraged with other donor funds and with private investment in community-based environmental improvements; and**
- **(vi) social, economic and ecological conditions found elsewhere in the region are represented and thus offer opportunities for prototypical solutions to environmental problems and have applicability to policies, institutions and procedures to nations throughout the region.**

In the second year, local "frameworks for action" or abbreviated management plans based on broadly accepted concepts (ICZM, ISM, "ridge to reef") will be initiated or built upon in a stakeholder-led process. The Action Framework will identify environmental issues, frame the expected course of action, determine required scientific and economic research required to inform resource use decisions, identify responsible parties, and outline a work plan for all activities, including a schedule, assignment of responsibilities, budget, training and technical assistance plan, etc. Local advisory groups comprised of private sector, government representatives and NGOs/CBOs will guide the development and

implementation of environmental management activities growing from these action frameworks.

The Action Framework would be submitted to a "Regional Environmental Program Coordinating Committee for review and concept approval. Local private sector interests would be expected to finance "within the gate" initiatives to improve internal environmental practices. They would also be asked to provide leadership, promotion and financing of initiatives to improve and diversify the tourism product "beyond the gate" and to assist in packaging bankable projects for finance from other sources. Key partners, such as the OECS/NRMU, will also assist in packaging approved environmental management initiatives for finance from a number of potential sources including development banks and donors. Government agencies will be expected to reform the policy environment as needed to enable local initiative and to provide staff and finance to carry out public sector responsibilities.

USAID's contributions could help: *a)* identify geographic areas of focus in the region; *b)* analyze the scope, magnitude and feasibility of proposed interventions (economic, financial, technical, institutional, and social) and of the investments needed; *c)* train key personnel in a variety of technical and managerial subject matters; *d)* establish dialogue with possible funding sources as part of the process of securing funding for field implementation with bankable proposals in hand; *e)* assist in securing private sector financing of environmental improvements both "within and beyond the gates"; *f)* provide small grants for selected environmental improvement activities which help bring stakeholders together in solving a problem; and *g)* support documentation and dissemination of innovations and best practices throughout the region.

Illustrative environmental management improvements that could be financed in each SITE area may include activities to:

(i) Protect economically valuable lands, resources and ecological systems

Public interest lands and resources will be identified and may include coral reefs, important agricultural and forestry areas, special scenic features (e.g., the volcanic cones of Gros and Petit Pitons near Sufriere, St.Lucia), and wetlands. Actions to establish national parks and protected areas would be encouraged where appropriate. NGOs, government agencies and the private sector may jointly develop, finance and implement conservation strategies for their protection.

(ii) Establish data collection and monitoring programs

An initial environmental information system may be established to collect, maintain and analyze data relevant to local environmental issues. The purpose is to provide a warning system for unacceptable impacts, check compliance with environmental quality objectives, identify cumulative impacts and support environmental management decisions. University research units (see Proposed Activity #3) or regional scientific institutions

(e.g., CARICOMP) may provide technical support for designing/maintaining these systems.

(iii) Design and implement environmental awareness programs

Environmental information and education materials may be prepared related to identified environmental issues and to the promotion of conservation activities, e.g., waste recycling, coral reef preservation, environmental health and sanitation improvements, etc. Creative approaches to information dissemination will be an important element of SITE activities. Community organizations, schools and pertinent government agencies may jointly carry out awareness activities.

(iv) Design and implement appropriate development controls, regulations and voluntary mechanisms for compliance with environmental objectives

Development controls may be designed and implemented that encourage environmental protection, including land use controls, effluent discharge standards, waste recycling incentives and other measures. These would be tailored to local characteristics and thus vary across each SITE area.

(v) carry out environmental actions and financial sustainability initiatives such as establishing a nature tourism venture, a mooring buoy system for reef protection, a tree planting program for watershed restoration, a tourist voluntary contribution program, etc.

A small grant program would finance priority environmental improvement projects and financial sustainability initiatives. In addition, other funds for small projects and for more capital intensive activities would be sought from private sources and other donors.

Community-based organizations who can benefit from organizational development and technical skills training will be identified. Training may be offered in at least the following areas:

(i) Community mobilization and conflict management;

(ii) Project design, management and evaluation skills;

(iii) Strategies for fundraising and generating sustainable revenues;

(iv) Environmental education and awareness methods;

(v) SITE activity related issues, e.g., water quality monitoring, nature and cultural heritage tourism, environmental audits, improved charcoal making, etc.; and

(vi) Creating and implementing a local conservation strategy.

2. Environmental Trust Funds

The strategy proposes joint private/public/CBO/donor initiatives to sustain long-term finance for tourism area environmental improvements. Foremost among these could be the establishment of regional and local environmental trust funds whose focus would be to provide continuity of financing improvements within tourism areas. Possible sources of funding include:

(i) tourist voluntary contribution programs that are built on tourists' inclinations to contribute to activities that improve the environment of the place they have enjoyed;

(ii) grants and/or endowment funding from foundations;

(iii) grants from major international private stakeholders (e.g., American Airlines, British Airways, American Express, Florida-Caribbean Cruise Lines, etc.);

(iv) bilateral and multilateral (including GEF) grants;

(v) bilateral debt relief programs (e.g., the Environmental Fund of Jamaica);

(vi) levies on the incremental tax revenues that a tourism area generates; and

(vii) other fundraising initiatives.

USAID may provide assistance to:

(i) local NGOs to develop promotional materials for tourist contribution programs;

(ii) hotel and tourism associations to develop mechanisms to enable both ease of contributing and transparency of transferring contributions to a local trust fund;

(iii) local committees to developing trust fund management structures, financial accountability and local project funding strategies;

(iv) CTO to work with national governments to assure that contributions go to the trust funds for environmental objectives and are not used as general budgetary revenues; and

(v) work with other donors, foundations and international stakeholders to determine feasibility, design and operational procedures of a regional trust fund.

Annex F. Global Climate Change Options

***"The small size of small island developing States means that development and environment are closely interrelated and interdependent. Recent human history contains examples of entire islands rendered uninhabitable through environmental destruction owing to external causes; small island developing States are fully aware that the environmental consequences of ill-conceived development can have catastrophic effects. Unsustainable development threatens not only the livelihood of people but also the islands themselves and the cultures they nurture. Climate change, climate variability and sea level rise are issues of grave concern. Similarly, the biological resources on which small island developing States depend are threatened by the large-scale exploitation of marine and terrestrial living resources."* - Preamble, Programme of Action for the Sustainable Development of Small Island States, Bridgetown, Barbados, 1994**

Background

The nations of the Caribbean are neither major emitters of the greenhouse gases that contribute to climate change, nor, with the exception of Guyana and Suriname, in possession of major forest reserves that serve as 'sinks' for these gases. Why then, should the threat of climate change be an important enough consideration for inclusion in USAID's Caribbean Environmental Strategy? The answer lies in the region's vulnerability to climate change, the resultant changes to important natural cycles, and the inexorable link between these environmental threats and economic development and stability.

Most experts agree that the global climate is changing because of an increase in anthropogenic emissions of greenhouse gases and the consequential concentration of these gases in the atmosphere. Since 1860, atmospheric concentrations of carbon dioxide (CO_2), the most predominant greenhouse gas, have increased thirty percent and average global temperature has risen one-half degree centigrade. In 1995, the Intergovernmental Panel on Climate Change (IPCC) found that the "pattern of global warming is unlikely to be entirely natural in origin," and "the balance of evidence suggests a discernible human influence on global climate."[8] Under a relatively optimistic scenario of a doubling of CO_2 concentrations in the atmosphere during the next century, average global temperature will rise by 1 to 3.5 degrees centigrade. This change in temperature will disturb the hydrological cycle and seasonal precipitation patterns, and could increase flooding and storm damage due to sea-level rise and severe climatic events such as tropical cyclones, tornadoes and El Niño effects.

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8 USAID's Climate Change Initiative, p 9.

A look at the extreme weather events of the past year show, perhaps more poignantly than ever, that global climate change is linked to economic stability and growth. The costs of responding to floods, fires, droughts and other extreme weather events are being extracted in hard currency and human health, in agricultural yields and insurance claims. It is estimated that over eight billion dollars (US) were spent globally in response to the most recent El Niño event. These costs are proportionately higher for developing nations than for their developed counterparts, as their fragile ecosystems and economies, and the populations that depend upon them, are less resilient to change than the more diverse and established economies of the developed world. And for developing *island* nations, whose vulnerability to the effects of global climate change threatens their very existence, the costs are extreme. Small island nations are the "canary in the coal mine" for global climate change issues: the first to be impacted and a warning to others that the effects of climate change have reached a state of crisis. Addressing these issues is therefore an urgent matter for the island nations of the Caribbean. This point has not been lost on the leadership of the Caribbean region.

Existing Regional Climate Change Policy

Both of the major hemispheric summits and a number of smaller regional summits since 1994 have included measures to directly or indirectly reduce the threat of climate change. For example, the Summit of the Americas (Miami, Florida; 1994) prescribes sectoral change, particularly pertaining to energy and terrestrial and coastal resources, that would result in a net reduction of greenhouse gas emissions. The Santiago Summit of the Americas (Santiago, Chile; 1998) specifically promoted cooperation toward achieving the objectives and goals of the United Nations Framework Convention on Climate Change, especially through technology transfer, efficiency improvements in the energy sector, and consideration of the flexibility mechanisms proposed at the Third Conference of the Parties (Kyoto, Japan; 1997). In addition, the declaration from the Santiago Summit encourages governments to apply science and technology to address the effects of climate variability on health, agriculture and water.

Equally pertinent to this exercise, at the 1994 Global Conference on the Sustainable Development of Small Island in Bridgetown, Barbados, a Plan of Action for the Sustainable Development of Small Island Developing States (SIDS/POA) was developed that identified fourteen priority areas for environmental intervention. Of these, climate change and sea-level rise was identified as a regional priority - rated sixth in regional importance in a 1997 survey carried out by the Economic Commission for Latin America and the Caribbean (ECLAC).[9] At least seven of the other priority areas (coastal and marine resources, natural and environmental disasters, energy resources, etc.) had direct links to climate change mitigation and adaptation. Not coincidentally, the SIDS/POA is a charter document for the Alliance of Small Island States (AOSIS), formed out of a recognition that "separately, they [small island States] could be ignored or discounted, but

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[9] Gardner, Lloyd. *Summary: Caribbean Environmental Priorities, Activities Underway, and Institutional Roles.* USAID, 1998.

together, they could be a strong, new voice for a sustainable future and a political force to be reckoned with in the international arena."[10]

[10] **AOSIS.** ***Small Islands, Big Issues: Sustainable Development of Islands*****. p. 3,**

Climate Change Recommendations for a Caribbean Regional Strategy

The recommendations that follow are a result of a review of existing USAID environmental priorities and activities in the region; consideration of priorities identified in the SIDS/POA and other relevant regional documentation; consultations with technical experts in the region, as part of the overall regional environmental strategy development; consultations with AOSIS representatives, particularly Ambassador C. Boucher, Barbados; and consideration of existing climate-related activities funded by other donors in the region. In keeping with USAID's overall strategy for climate change, with the exception of activities that specifically address climate change vulnerability and adaptation and/or support flexible mechanisms recommended under the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, recommendations for climate change mitigation stem from existing environmental sector priorities (i.e., energy, forestry, etc.).

The following are suggestions for USAID climate change-related intervention in the Caribbean:

Vulnerability Analysis/Planning for Adaptation:
Link scientists and planners in activities that strengthen the capability of indigenous institutions to understand, anticipate and prepare for the adverse impacts of climate change, with a focus on disaster preparation, response and recovery.

Improve small island nations' ability to adapt to climate change and withstand extreme storms through activities to preserve mangroves, wetlands, and coral reefs.

'Kyoto Mechanisms':
Develop and support the capacity to identify and quantify the economic costs and opportunities associated with climate change and implementation of the flexible mechanisms proposed in the Kyoto Protocol (Clean Development Mechanism, Joint Implementation, Emissions Trading).

Increase capacity to develop carbon offset programs and projects in the region.

Renewable Energy:
Develop common strategies to decrease reliance on fossil-fuel based energy production and expand renewable energy systems to take advantage of substantial solar, wind, and tidal resources, recognizing that small-scale renewable energy projects have the added benefit of being more resilient to natural disasters.

Identify and support innovative financing mechanisms (i.e., project bundling) and market opportunities that build on existing organizational capacity and common interest to address the challenges unique to small island states.

Carbon Sequestration:

Increase carbon stores through sustainable forest management and protection of the Guyana Shield.

Technology Transfer:

Promote technology transfer and private sector relationships through technology cooperation agreements, utility partnerships, etc.

Sustainable Tourism/Urban Development:

Encourage environmentally sustainable tourism through innovative applications of energy efficient technologies and incentive programs in the hotel industry and municipal services, particularly water and waste treatment.

Promote sustainable tourism/urban development in coastal zone areas through integrated management and planning.